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<110> Colloca, Stefano
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 Bruni Ercole, Bruno
 Meola, Annalisa

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<150> PCT/EP2005/000558

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<210> 6

<211> 1737

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 20 Fiber

<400> 6

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<210> 7

<211> 1278

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 4 Fiber

<400> 7

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<210> 8

<211> 1335

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 5 Fiber

<400> 8

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gaaatcacc tcaagctggg agatgggggtg gacctcgacg actcgggaaa actcatctcc 240
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<210> 9

<211> 1338

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 7 Fiber

<400> 9

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<210> 10

<211> 1278

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 9 Fiber

<400> 10

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<210> 11

<211> 1278

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 10 Fiber

<400> 11

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<210> 12

<211> 1737

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 11 Fiber

<400> 12

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<210> 13

<211> 1632

<212> DNA

<213> Chimpanzee Adnovirus- ChAd 16 Fiber

<400> 13

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<210> 14

<211> 1632

<212> DNA

<213> Chimpanzee Adenovirus-ChAd 17 Fiber

<400> 14

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gctgaacaat aa 1632

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<210> 15

<211> 1632

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 19 Fiber

<400> 15

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<210> 16

<211> 2865

<212> DNA

<213> Chimp0anzee Adenovirus- ChAd 20 Hexon

<400> 16

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<210> 17

<211> 2823

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 4 Hexon

<400> 17

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taa

2823

<210> 18

<211> 2823

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 5 Hexon

<400> 18

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<211> 2823

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 7 Hexon

<400> 19

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<211> 2793

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 9 Hexon

<400> 20

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<210> 21

<211> 2793

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 10 Hexon

<400> 21

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<210> 22

<211> 2883

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 11 Hexon

<400> 22

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<211> 2835

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 16 Hexon

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23

<210> 29

<211> 37

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<213> Artificial Sequence

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<223> Oligomer

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<220>
<223> Oligomer

<400> 30
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<210> 41

<211> 2880

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 3 Hexon

<400> 41

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<211> 1683

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 3 Fiber

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gtagttaccg gaaatggact aactgtagat aacaatgcc tccaaactag agttacgggc 780
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agccttagac ttggctcaggg acccctgtat ataaacacag accacaacct ggatttgaat 960
tgcaacagag gtctaaccac aactaccacc aacaacacaa aaaaacttga gactaaaatt 1020
agctcaggct tagactatga caccaatggt gctgtcatta ttaaacttgg cactggtcta 1080
agcttcgaca acacaggcgc cctaactgtg ggaaactctg gtgatgataa actgactctg 1140
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actctagtcc taactaagtg tggaaagcaa atcctggcct ctgtcgccgc cctagcggta 1260
tcaggaaatc tggcttcgat aacaggcacc gttgccagcg ttaccatctt tctcagattt 1320
gatcagaatg gagtgttat ggaaaactcc tcgctagaca ggcagtactg gaacttcaga 1380
aatggcaact caactaacgc tgccccctac accaatgcag ttgggttcat gccaaacctc 1440
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ttgaatggag acaaatccaa acccatgacc cttaccatca ccctcaatgg aactaatgaa 1560
tcagtgaaa ctagccagggt gagtcactac tccatgtcat ttacatgggc ttgggaaagt 1620
gggcaatatg ccactgaaac ctttgccacc aactccttca ccttttctta cattgctgaa 1680
caa

```

<210> 43

<211> 2859

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 6 Hexon

<400> 43

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atgtatgtcc gccgaccaga aggaagaggc gcgtcgccga gttgcaagat ggccacccca 60
tcgatgtctc cccagtgggc gtacatgcac atcgccggac aggacgcttc ggagtacctg 120
agtccgggtc tgggtcagtt cgcccgccgc acagaccctt acttcagtct gggaacaag 180
tttaggaacc ccacggtggc gccacgcgac gatgtgacca ccgaccgcag ccagcggctg 240
acgctgcgct tcgtgcccgt ggaccgcgag gacaacacct actcgtacaa agtgcgctac 300
acgctggccg tgggcgacaa ccgctgtctg gacatggcca gcacctactt tgacatccgc 360
ggcgtgctgg atcggggccc cagcttcaaa ccctactccg gcaccgccta caacagcctg 420
gctcccaagg gagcgcccaa cacctcacag tggataacca aagacaatgg aactgataag 480
acatacagtt ttggaaatgc tccagtcaga ggattggaca ttacagaaga ggggtctcaa 540
ataggacccg atgagtcagg gggtgaaagc aagaaaattt ttgcagacaa aacctatcag 600
cctgaacctc agcttgaga tgaggaatgg catgatacta ttggagctga agacaagtat 660
ggaggcagag cgcttaaacc tgccaccaac atgaaaccct gctatgggtc tttcgccaag 720
ccaactaatg ctaagggagg tcaggctaaa agcagaacca aggacgatgg cactactgag 780
cctgatattg acatggcctt ctttgacgat cgcagtcagc aagctagttt cagtccagaa 840
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gatacattcc agggaattaa ggttaaaact accaataacg gaacagcaaa tgctacagag 1320
tgggaatctg atacctctgt caataatgct aatgagattg ccaagggcaa tcctttcgcc 1380

```

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atggagatca acatccaggc caacctgtgg cggaacttcc tctacgcgaa cgtggcgctg 1440
tacctgcccg actcctacaa gtacacgccg gccaacatca cgctgcccgc caacaccaac 1500
acctacgatt acatgaacgg ccgcgtggta gcgccctcgc tggaggacgc ctacatcaac 1560
atcggggcgc gctggtcgct ggaccccatg gacaacgtca accccttcaa ccaccaccgc 1620
aacgcggggc tgcgtaccg ctccatgtct ctgggcaacg ggcgtacgt gcccttccac 1680
atccaggtgc cccaaaagtt ttctgccatc aagagcctcc tgctcctgcc cgggtcctac 1740
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gacctgcgca cggacggggc ctccatcgcc ttcaccagca tcaacctcta cgccaccttc 1860
ttcccatggt cgcacaacac cgctccacg ctcgaggcca tgctgcgcaa cgacaccaac 1920
gaccagtcct tcaacgacta cctctcggcg gccaacatgc tctaccccat cccggccaac 1980
gccaccaacg tgcccatctc catcccctcg cgcaactggg ccgccttccg cggctggtcc 2040
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gtctactcgg gctccatccc ctacctcgac ggacaccttc acctcaacca caccttcaag 2160
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aacatgacca aggactgggt cctgggttcag atgtggccc actacaacat cggctaccag 2340
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gcctaccagc acaacaactc gggcttcgtc ggctacctcg cgcccaccat gcgccaggga 2520
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accagaaaa agttcctctg cgaccgggtc atgtggcgca tccccttctc cagcaacttc 2640
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gcgctagaca tgaatttcga agtcgacccc atggatgagt ccacccttct ctatgttgct 2760
ttcgaagtct tcgacgtcgt ccgagtgcac cagccccacc gcggcgctcat cgaggccgtc 2820
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<210> 44

<211> 1335

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 6 Fiber

<400> 44

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atgtccaaaa agcgcgcgcg ggtggatgat gacttcgacc ccgtgtaccc ctacgatgca 60
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gaaaagcccc tgggggtggt gtccctgcga ctggccgatc ccgtcaccac caagaacggg 180
gctgtcacc tcaagctggg ggaggggggtg gacctcgacg actcgggaaa actcatctcc 240
aaaaatgcc ccaaggccac tgccctctc agtatttcca acaacaccat ttcccttaac 300
atggataccc ctctttacaa caacaatgga aagctaggta tgaaggtaac cgcaccatta 360
aagatattag acacagatct actaaaaaca cttgttggtg cttatgggca gggattagga 420
acaaacacca atggtgctct tgttgcccaa ctagcatacc cacttgtttt taataccgct 480
agcaaaattg cccttaattt aggcaatgga ccattaaaag tggatgcaaa tagactgaac 540
attaattgca aaagaggtat ctatgtcact accacaaaag atgcaactgga gattaatatc 600
agttgggcaa atgctatgac atttatagga aatgccattg gtgtcaatat tgacacaaaa 660
aaaggcctac agttcggcac ttcaagcact gaaacagatg ttaaaaatgc ttttccactc 720
caagtaaaac ttggagctgg tcttacattt gacagcacag gtgccattgt tgcttggaac 780
aaagaagatg acaaacttac actgtggacc acagccgatc catctccaaa ctgtcacata 840
tattctgcaa aggatgctaa gcttacactc tgcttgacaa agtgtggtag tcagatactg 900
ggcactgttt ctctcatagc tgttgatact ggtagcttaa atccaataac aggaaaagta 960
accactgctc ttgtttcact taaattcgat gccaatggag ttttgcaagc cagttcaaca 1020
ctagataaag aatattggaa tttcagaaaa ggagatgtga cacctgctga ccctacact 1080
aatgctatag gctttatgcc caaccttaat gcatacccaa aaaacacaaa cgcagctgca 1140
aaaagtcaca ttgttggaag agtataccta catggggatg aaagcaagcc actagacttg 1200
ataattacat ttaatgaaac cagtgatgaa tcctgtactt attgcattaa ctttcagtgg 1260
cagtggggaa ctgaccaata taaagatgaa acacttgcag tcagttcatt caccttctca 1320
tacattgcta aagaa 1335

```

<210> 45

<211> 22

<212> DNA

<213> Artificial Sequence

<220>
<223> Primer

<400> 45
tgtcctacca rctcttgctt ga

22

<210> 46
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 46
gtggaarggc acgtagcg

18

<210> 47
<211> 9
<212> PRT
<213> HIV gag CD8 Epitope

<220>
<223> Primer

<400> 47
Ala Met Gln Met Leu Lys Glu Thr Ile
1 5

<210> 48
<211> 578
<212> PRT
<213> Chimpanzee Adenovirus- ChAd 20 Fiber

<400> 48
Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
1 5 10 15
Tyr Asp Thr Glu Ser Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
20 25 30
Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
35 40 45
Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
50 55 60
Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
65 70 75 80
Gln Asp Ile Thr Thr Ala Ser Pro Pro Leu Lys Lys Thr Lys Thr Asn
85 90 95
Leu Ser Leu Glu Thr Ser Ser Pro Leu Thr Val Ser Thr Ser Gly Ala
100 105 110
Leu Thr Val Ala Ala Ala Ala Pro Leu Ala Val Ala Gly Thr Ser Leu
115 120 125
Thr Met Gln Ser Glu Ala Pro Leu Thr Val Gln Asp Ala Lys Leu Thr
130 135 140
Leu Ala Thr Lys Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu
145 150 155 160
Gln Thr Ser Ala Pro Leu Thr Ala Ala Asp Ser Ser Thr Leu Thr Val
165 170 175
Ser Ala Thr Pro Pro Leu Ser Thr Ser Asn Gly Ser Leu Gly Ile Asp
180 185 190
Met Gln Ala Pro Ile Tyr Thr Thr Asn Gly Lys Leu Gly Leu Asn Phe
195 200 205

Gly Ala Pro Leu His Val Val Asp Ser Leu Asn Ala Leu Thr Val Val
 210 215 220
 Thr Gly Gln Gly Leu Thr Ile Asn Gly Thr Ala Leu Gln Thr Arg Val
 225 230 235 240
 Ser Gly Ala Leu Asn Tyr Asp Thr Ser Gly Asn Leu Glu Leu Arg Ala
 245 250 255
 Ala Gly Gly Met Arg Val Asp Ala Asn Gly Gln Leu Ile Leu Asp Val
 260 265 270
 Ala Tyr Pro Phe Asp Ala Gln Asn Asn Leu Ser Leu Arg Leu Gly Gln
 275 280 285
 Gly Pro Leu Phe Val Asn Ser Ala His Asn Leu Asp Val Asn Tyr Asn
 290 295 300
 Arg Gly Leu Tyr Leu Phe Thr Ser Gly Asn Thr Lys Lys Leu Glu Val
 305 310 315 320
 Asn Ile Lys Thr Ala Lys Gly Leu Ile Tyr Asp Asp Thr Ala Ile Ala
 325 330 335
 Ile Asn Ala Gly Asp Gly Leu Gln Phe Asp Ser Gly Ser Asp Thr Asn
 340 345 350
 Pro Leu Lys Thr Lys Leu Gly Leu Gly Leu Asp Tyr Asp Ser Ser Arg
 355 360 365
 Ala Ile Ile Ala Lys Leu Gly Thr Gly Leu Ser Phe Asp Asn Thr Gly
 370 375 380
 Ala Ile Thr Val Gly Asn Lys Asn Asp Asp Lys Leu Thr Leu Trp Thr
 385 390 395 400
 Thr Pro Asp Pro Ser Pro Asn Cys Arg Ile Tyr Ser Glu Lys Asp Ala
 405 410 415
 Lys Phe Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Val Leu Ala Ser
 420 425 430
 Val Ser Val Leu Ser Val Lys Gly Ser Leu Ala Pro Ile Ser Gly Thr
 435 440 445
 Val Thr Ser Ala Gln Ile Val Leu Arg Phe Asp Glu Asn Gly Val Leu
 450 455 460
 Leu Ser Asn Ser Ser Leu Asp Pro Gln Tyr Trp Asn Tyr Arg Lys Gly
 465 470 475 480
 Asp Leu Thr Glu Gly Thr Ala Tyr Thr Asn Ala Val Gly Phe Met Pro
 485 490 495
 Asn Leu Thr Ala Tyr Pro Lys Thr Gln Ser Gln Thr Ala Lys Ser Asn
 500 505 510
 Ile Val Ser Gln Val Tyr Leu Asn Gly Asp Lys Ser Lys Pro Met Thr
 515 520 525
 Leu Thr Ile Thr Leu Asn Gly Thr Asn Glu Thr Gly Asp Ala Thr Val
 530 535 540
 Ser Thr Tyr Ser Met Ser Phe Ser Trp Asn Trp Asn Gly Ser Asn Tyr
 545 550 555 560
 Ile Asn Glu Thr Phe Gln Thr Asn Ser Phe Thr Phe Ser Tyr Ile Ala
 565 570 575
 Gln Glu

<210> 49

<211> 425

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 4 Fiber

<400> 49

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1 5 10 15
 Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
 20 25 30
 Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
 35 40 45

```

Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
 50      55      60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
65      70      75      80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85      90      95
Ile Ser Leu Asn Met Asp His Pro Phe Tyr Thr Lys Asp Gly Lys Leu
      100      105      110
Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Arg Thr Ser Ile Leu
      115      120      125
Asn Thr Leu Ala Leu Gly Phe Gly Ser Gly Leu Gly Leu Arg Gly Ser
      130      135      140
Ala Leu Ala Val Gln Leu Val Ser Pro Leu Thr Phe Asp Thr Asp Gly
145      150      155      160
Asn Ile Lys Leu Thr Leu Asp Arg Gly Leu His Val Thr Thr Gly Asp
      165      170      175
Ala Ile Glu Ser Asn Ile Ser Trp Ala Lys Gly Leu Lys Phe Glu Asp
      180      185      190
Gly Ala Ile Ala Thr Asn Ile Gly Asn Gly Leu Glu Phe Gly Ser Ser
      195      200      205
Ser Thr Glu Thr Gly Val Asp Ala Tyr Pro Ile Gln Val Lys Leu
      210      215      220
Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Ile Met Ala Gly Asn
225      230      235      240
Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro
      245      250      255
Asn Cys Gln Ile Leu Ala Glu Asn Asp Ala Lys Leu Thr Leu Cys Leu
      260      265      270
Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Val Val
      275      280      285
Gly Ser Gly Asn Leu Asn Pro Ile Thr Gly Thr Val Ser Ser Ala Gln
      290      295      300
Val Phe Leu Arg Phe Asp Ala Asn Gly Val Leu Leu Thr Glu His Ser
305      310      315      320
Thr Leu Lys Lys Tyr Trp Gly Tyr Arg Gln Gly Asp Ser Ile Asp Gly
      325      330      335
Thr Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Lys Ala Tyr
      340      345      350
Pro Lys Ser Gln Ser Ser Thr Thr Lys Asn Asn Ile Val Gly Gln Val
      355      360      365
Tyr Met Asn Gly Asp Val Ser Lys Pro Met Leu Leu Thr Ile Thr Leu
      370      375      380
Asn Gly Thr Asp Asp Ser Asn Ser Thr Tyr Ser Met Ser Phe Ser Tyr
385      390      395      400
Thr Trp Thr Asn Gly Ser Tyr Val Gly Ala Thr Phe Gly Ala Asn Ser
      405      410      415
Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
      420      425

```

<210> 50

<211> 444

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 5 Fiber

<400> 50

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1      5      10      15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20      25      30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
      35      40      45

```



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Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
 50      55      60
Lys Leu Gly Asp Gly Val Asp Leu Asp Asp Ser Gly Lys Leu Ile Ser
65      70      75      80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85      90      95
Ile Ser Leu Asn Met Asp Thr Pro Leu Tyr Asn Asn Asn Gly Lys Leu
      100      105      110
Gly Met Lys Val Thr Ala Pro Leu Lys Ile Leu Asp Thr Asp Leu Leu
      115      120      125
Lys Thr Leu Val Val Ala Tyr Gly Gln Gly Leu Gly Thr Asn Thr Asn
      130      135      140
Gly Ala Leu Val Ala Gln Leu Ala Tyr Pro Leu Val Phe Asn Thr Ala
145      150      155      160
Ser Lys Ile Ala Leu Asn Leu Gly Asn Gly Pro Leu Lys Val Asp Ala
      165      170      175
Asn Arg Leu Asn Ile Asn Cys Lys Arg Gly Ile Tyr Val Thr Thr Thr
      180      185      190
Lys Asp Ala Leu Glu Ile Asn Ile Ser Trp Ala Asn Ala Met Thr Phe
      195      200      205
Ile Gly Asn Ala Ile Gly Val Asn Ile Asp Thr Lys Lys Gly Leu Gln
      210      215      220
Phe Gly Thr Ser Ser Thr Glu Thr Asp Val Lys Asn Ala Phe Ser Leu
225      230      235      240
Gln Val Lys Leu Gly Ala Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile
      245      250      255
Val Ala Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala
      260      265      270
Asp Pro Ser Pro Asn Cys His Ile Tyr Ser Ala Lys Asp Ala Lys Leu
      275      280      285
Thr Leu Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Ser
      290      295      300
Leu Leu Ala Val Ser Gly Ser Leu Ala Pro Ile Thr Gly Ala Val Arg
305      310      315      320
Thr Ala Leu Val Ser Leu Lys Phe Asn Ala Asn Gly Ala Leu Leu Asp
      325      330      335
Lys Ser Thr Leu Asn Lys Glu Tyr Trp Asn Tyr Arg Gln Gly Asp Leu
      340      345      350
Ile Pro Gly Thr Pro Tyr Thr His Ala Val Gly Phe Met Pro Asn Lys
      355      360      365
Lys Ala Tyr Pro Lys Asn Thr Thr Ala Ala Ser Lys Ser His Ile Val
      370      375      380
Gly Asp Val Tyr Leu Asp Gly Asp Ala Asp Lys Pro Leu Ser Leu Ile
385      390      395      400
Ile Thr Phe Asn Glu Thr Asp Asp Glu Thr Cys Asp Tyr Cys Ile Asn
      405      410      415
Phe Gln Trp Lys Trp Gly Ala Asp Gln Tyr Lys Asp Lys Thr Leu Ala
      420      425      430
Thr Ser Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
      435      440

```

<210> 51

<211> 445

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 7 Fiber

<400> 51

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1      5      10      15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20      25      30

```

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Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
    35          40          45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
    50          55          60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
    65          70          75          80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
    85          90          95
Ile Ser Leu Asn Met Asp Thr Pro Phe Tyr Asn Asn Asn Gly Lys Leu
    100          105          110
Gly Met Lys Val Thr Ala Pro Leu Lys Ile Leu Asp Thr Asp Leu Leu
    115          120          125
Lys Thr Leu Val Val Ala Tyr Gly Gln Gly Leu Gly Thr Asn Thr Thr
    130          135          140
Gly Ala Leu Val Ala Gln Leu Ala Ala Pro Leu Ala Phe Asp Ser Asn
    145          150          155          160
Ser Lys Ile Ala Leu Asn Leu Gly Asn Gly Pro Leu Lys Val Asp Ala
    165          170          175
Asn Arg Leu Asn Ile Asn Cys Asn Arg Gly Leu Tyr Val Thr Thr Thr
    180          185          190
Lys Asp Ala Leu Glu Thr Asn Ile Ser Trp Ala Asn Ala Met Thr Phe
    195          200          205
Ile Gly Asn Ala Met Gly Val Asn Ile Asp Thr Gln Lys Gly Leu Gln
    210          215          220
Phe Gly Thr Thr Ser Thr Val Ala Asp Val Lys Asn Ala Tyr Pro Ile
    225          230          235          240
Gln Val Lys Leu Gly Ala Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile
    245          250          255
Val Ala Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala
    260          265          270
Asp Pro Ser Pro Asn Cys His Ile Tyr Ser Asp Lys Asp Ala Lys Leu
    275          280          285
Thr Leu Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Ser
    290          295          300
Leu Ile Ala Val Asp Thr Gly Ser Leu Asn Pro Ile Thr Gly Gln Val
    305          310          315          320
Thr Thr Ala Leu Val Ser Leu Lys Phe Asp Ala Asn Gly Val Leu Gln
    325          330          335
Thr Ser Ser Thr Leu Asp Lys Glu Tyr Trp Asn Phe Arg Lys Gly Asp
    340          345          350
Val Thr Pro Ala Glu Pro Tyr Thr Asn Ala Ile Gly Phe Met Pro Asn
    355          360          365
Leu Lys Ala Tyr Pro Lys Asn Thr Ser Gly Ala Ala Lys Ser His Ile
    370          375          380
Val Gly Lys Val Tyr Leu His Gly Asp Thr Asp Lys Pro Leu Asp Leu
    385          390          395          400
Ile Ile Thr Phe Asn Glu Thr Ser Asp Glu Ser Cys Thr Tyr Cys Ile
    405          410          415
Asn Phe Gln Trp Lys Trp Asp Ser Thr Lys Tyr Thr Gly Glu Thr Leu
    420          425          430
Ala Thr Ser Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
    435          440          445

```

<210> 52

<211> 425

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 9 Fiber

<400> 52

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
  1          5          10          15

```

```

Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20      25      30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
      35      40      45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
      50      55      60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
      65      70      75      80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85      90      95
Ile Ser Leu Asn Met Asp His Pro Phe Tyr Thr Lys Asp Gly Lys Leu
      100      105      110
Ala Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Arg Thr Ser Ile Leu
      115      120      125
Asn Thr Leu Ala Leu Gly Phe Gly Ser Gly Leu Gly Leu Arg Gly Ser
      130      135      140
Ala Leu Ala Val Gln Leu Val Ser Pro Leu Thr Phe Asp Thr Asp Gly
      145      150      155      160
Asn Ile Lys Leu Thr Leu Asp Arg Gly Leu His Val Thr Thr Gly Asp
      165      170      175
Ala Ile Glu Ser Asn Ile Ser Trp Ala Lys Gly Leu Lys Phe Glu Asp
      180      185      190
Gly Ala Ile Ala Thr Asn Ile Gly Asn Gly Leu Glu Phe Gly Ser Ser
      195      200      205
Ser Thr Glu Thr Gly Val Asp Asp Ala Tyr Pro Ile Gln Val Lys Leu
      210      215      220
Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Ile Met Ala Gly Asn
      225      230      235      240
Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro
      245      250      255
Asn Cys Gln Ile Leu Ala Glu Asn Asp Ala Lys Leu Thr Leu Cys Leu
      260      265      270
Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Val Val
      275      280      285
Gly Ser Gly Asp Leu Asn Pro Ile Thr Gly Thr Val Ser Ser Ala Gln
      290      295      300
Val Phe Leu Arg Phe Asp Ala Asn Gly Val Leu Leu Thr Glu His Ser
      305      310      315      320
Thr Leu Lys Lys Tyr Trp Gly Tyr Arg Gln Gly Asp Ser Ile Asp Gly
      325      330      335
Thr Pro Tyr Ala Asn Ala Val Gly Phe Met Pro Asn Leu Lys Ala Tyr
      340      345      350
Pro Lys Ser Gln Ser Ser Thr Thr Lys Asn Asn Ile Val Gly Gln Val
      355      360      365
Tyr Met Asn Gly Asp Val Ser Lys Pro Met Leu Leu Thr Ile Thr Leu
      370      375      380
Asn Gly Thr Asp Asp Ser Asn Ser Thr Tyr Ser Met Ser Phe Ser Tyr
      385      390      395      400
Thr Trp Thr Asn Gly Ser Tyr Val Gly Ala Thr Phe Gly Ala Asn Ser
      405      410      415
Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
      420      425

```

<210> 53

<211> 425

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 10 Fiber

<400> 53

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
  1           5           10           15

```

```

Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
20 25 30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
35 40 45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
50 55 60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
65 70 75 80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
85 90 95
Ile Ser Leu Asn Met Asp His Pro Phe Tyr Thr Lys Asp Gly Lys Leu
100 105 110
Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Arg Thr Ser Ile Leu
115 120 125
Asn Thr Leu Ala Leu Gly Phe Gly Ser Gly Leu Gly Leu Arg Gly Ser
130 135 140
Ala Leu Ala Val Gln Leu Val Ser Pro Leu Thr Phe Asp Thr Asp Gly
145 150 155 160
Asn Ile Lys Leu Thr Leu Asp Arg Gly Leu His Val Thr Thr Gly Asp
165 170 175
Ala Ile Glu Ser Asn Ile Ser Trp Ala Lys Gly Leu Lys Phe Glu Asp
180 185 190
Gly Ala Ile Ala Thr Asn Ile Gly Asn Gly Leu Glu Phe Gly Ser Ser
195 200 205
Ser Thr Glu Thr Gly Val Asp Asp Ala Tyr Pro Ile Gln Val Lys Leu
210 215 220
Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Ile Met Ala Gly Asn
225 230 235 240
Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro
245 250 255
Asn Cys Gln Ile Leu Ala Glu Asn Asp Ala Lys Leu Thr Leu Cys Leu
260 265 270
Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Val Val
275 280 285
Gly Ser Gly Asn Leu Asn Pro Ile Thr Gly Thr Val Ser Ser Ala Gln
290 295 300
Val Phe Leu Arg Phe Asp Ala Asn Gly Val Leu Leu Thr Glu His Ser
305 310 315 320
Thr Leu Lys Lys Tyr Trp Gly Tyr Arg Gln Gly Asp Ser Ile Asp Gly
325 330 335
Thr Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Lys Ala Tyr
340 345 350
Pro Lys Ser Gln Ser Ser Thr Thr Lys Asn Asn Ile Val Gly Gln Val
355 360 365
Tyr Met Asn Gly Asp Val Ser Lys Pro Met Leu Leu Thr Ile Thr Leu
370 375 380
Asn Gly Thr Asp Asp Ser Asn Ser Thr Tyr Ser Met Ser Phe Ser Tyr
385 390 395 400
Thr Trp Thr Asn Gly Ser Tyr Val Gly Ala Thr Phe Gly Ala Asn Ser
405 410 415
Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
420 425

```

<210> 54

<211> 578

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 11 Fiber

<400> 54

```

Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
1 5 10 15

```

Tyr	Asp	Thr	Glu	Asn	Gly	Pro	Pro	Ser	Val	Pro	Phe	Leu	Thr	Pro	Pro	
			20					25					30			
Phe	Val	Ser	Pro	Asp	Gly	Phe	Gln	Glu	Ser	Pro	Pro	Gly	Val	Leu	Ser	
		35					40					45				
Leu	Asn	Leu	Ala	Glu	Pro	Leu	Val	Thr	Ser	His	Gly	Met	Leu	Ala	Leu	
	50					55					60					
Lys	Met	Gly	Ser	Gly	Leu	Ser	Leu	Asp	Asp	Ala	Gly	Asn	Leu	Thr	Ser	
65					70					75					80	
Gln	Asp	Val	Thr	Thr	Thr	Thr	Pro	Pro	Leu	Lys	Lys	Thr	Lys	Thr	Asn	
			85						90					95		
Leu	Ser	Leu	Glu	Thr	Ser	Ala	Pro	Leu	Thr	Val	Ser	Thr	Ser	Gly	Ala	
			100					105					110			
Leu	Thr	Leu	Ala	Ala	Ala	Val	Pro	Leu	Ala	Val	Ala	Gly	Thr	Ser	Leu	
		115					120					125				
Thr	Met	Gln	Ser	Glu	Ala	Pro	Leu	Thr	Val	Gln	Asp	Ala	Lys	Leu	Thr	
	130					135					140					
Leu	Ala	Thr	Lys	Gly	Pro	Leu	Thr	Val	Ser	Glu	Gly	Lys	Leu	Ala	Leu	
145					150					155					160	
Gln	Thr	Ser	Ala	Pro	Leu	Thr	Ala	Ala	Asp	Ser	Ser	Thr	Leu	Thr	Ile	
			165						170						175	
Ser	Ala	Thr	Pro	Pro	Leu	Ser	Thr	Ser	Asn	Gly	Ser	Leu	Gly	Ile	Asp	
			180					185					190			
Met	Gln	Ala	Pro	Ile	Tyr	Thr	Thr	Asn	Gly	Lys	Leu	Gly	Leu	Asn	Phe	
	195						200					205				
Gly	Ala	Pro	Leu	His	Val	Val	Asp	Ser	Leu	Asn	Ala	Leu	Thr	Val	Val	
	210					215					220					
Thr	Gly	Gln	Gly	Leu	Thr	Ile	Asn	Gly	Thr	Ala	Leu	Gln	Thr	Arg	Val	
225					230					235					240	
Ser	Gly	Ala	Leu	Asn	Tyr	Asp	Ser	Ser	Gly	Asn	Leu	Glu	Leu	Arg	Ala	
			245						250					255		
Ala	Gly	Gly	Met	Arg	Val	Asp	Ala	Asn	Gly	Lys	Leu	Ile	Leu	Asp	Val	
			260					265					270			
Ala	Tyr	Pro	Phe	Asp	Ala	Gln	Asn	Asn	Leu	Ser	Leu	Arg	Leu	Gly	Gln	
		275					280					285				
Gly	Pro	Leu	Phe	Val	Asn	Ser	Ala	His	Asn	Leu	Asp	Val	Asn	Tyr	Asn	
	290				295						300					
Arg	Gly	Leu	Tyr	Leu	Phe	Thr	Ser	Gly	Asn	Thr	Lys	Lys	Leu	Glu	Val	
305					310					315					320	
Asn	Ile	Lys	Thr	Ala	Lys	Gly	Leu	Ile	Tyr	Asp	Asp	Thr	Ala	Ile	Ala	
			325						330					335		
Ile	Asn	Pro	Gly	Asp	Gly	Leu	Glu	Phe	Gly	Ser	Gly	Ser	Asp	Thr	Asn	
			340					345					350			
Pro	Leu	Lys	Thr	Lys	Leu	Gly	Leu	Gly	Leu	Glu	Tyr	Asp	Ser	Ser	Arg	
		355					360					365				
Ala	Ile	Ile	Ala	Lys	Leu	Gly	Thr	Gly	Leu	Ser	Phe	Asp	Asn	Thr	Gly	
	370					375					380					
Ala	Ile	Thr	Val	Gly	Asn	Lys	Asn	Asp	Asp	Lys	Leu	Thr	Leu	Trp	Thr	
385					390					395					400	
Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Arg	Ile	Tyr	Ser	Glu	Lys	Asp	Ala	
			405						410					415		
Lys	Phe	Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Val	Leu	Ala	Ser	
			420					425					430			
Val	Ser	Val	Leu	Ser	Val	Lys	Gly	Ser	Leu	Ala	Pro	Ile	Ser	Gly	Thr	
		435					440					445				
Val	Thr	Ser	Ala	Gln	Ile	Ile	Leu	Arg	Phe	Asp	Glu	Asn	Gly	Val	Leu	
	450					455					460					
Leu	Ser	Asn	Ser	Ser	Leu	Asp	Pro	Gln	Tyr	Trp	Asn	Tyr	Arg	Lys	Gly	
465					470					475					480	
Asp	Leu	Thr	Glu	Gly	Thr	Ala	Tyr	Thr	Asn	Ala	Val	Gly	Phe	Met	Pro	
			485						490					495		

```

Asn Leu Thr Ala Tyr Pro Lys Thr Gln Ser Gln Thr Ala Lys Ser Asn
      500      505      510
Ile Val Ser Gln Val Tyr Leu Asn Gly Asp Lys Ser Lys Pro Met Ile
      515      520      525
Leu Thr Ile Thr Leu Asn Gly Thr Asn Glu Thr Gly Asp Ala Thr Val
      530      535      540
Ser Thr Tyr Ser Met Ser Phe Ser Trp Asn Trp Asn Gly Ser Asn Tyr
545      550      555      560
Ile Asn Glu Thr Phe Gln Thr Asn Ser Phe Thr Phe Ser Tyr Ile Ala
      565      570      575
Gln Glu

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<210> 55

<211> 442

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 16 Fiber

<400> 55

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
1      5      10      15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20      25      30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
      35      40      45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
      50      55      60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
65      70      75      80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85      90      95
Ile Ser Leu Asn Met Asp Thr Pro Phe Tyr Thr Lys Asp Gly Lys Leu
      100      105      110
Thr Met Gln Val Thr Ala Pro Leu Lys Leu Ala Asn Thr Ala Ile Leu
      115      120      125
Asn Thr Leu Ala Met Ala Tyr Gly Asn Gly Leu Gly Leu Ser Asn Asn
      130      135      140
Ala Leu Thr Val Gln Leu Gln Ser Pro Leu Thr Phe Asn Asn Ser Lys
145      150      155      160
Val Ala Ile Asn Leu Gly Asn Gly Pro Leu Asn Val Thr Ser Asn Arg
      165      170      175
Leu Ser Ile Asn Cys Lys Arg Gly Val Tyr Val Thr Thr Thr Gly Asp
      180      185      190
Ala Ile Glu Thr Asn Ile Ser Trp Ser Asn Ala Ile Lys Phe Ile Gly
      195      200      205
Asn Ala Met Gly Val Asn Ile Asp Thr Asn Lys Gly Leu Gln Phe Gly
      210      215      220
Thr Thr Ser Thr Val Thr Asp Val Thr Asn Ala Phe Pro Ile Gln Val
225      230      235      240
Lys Leu Gly Ala Gly Leu Ala Phe Asp Ser Thr Gly Ala Ile Val Ala
      245      250      255
Trp Asn Lys Glu Asp Asp Ser Leu Thr Leu Trp Thr Thr Pro Asp Pro
      260      265      270
Ser Pro Asn Cys Lys Ile Ala Ser Asp Lys Asp Ala Lys Leu Thr Leu
      275      280      285
Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Ser Leu Leu
      290      295      300
Ala Val Ser Gly Ser Leu Ala Pro Ile Thr Gly Ala Val Ser Thr Ala
305      310      315      320
Leu Val Ser Leu Lys Phe Asp Ala Asn Gly Ala Leu Leu Glu Lys Ser
      325      330      335

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Thr Leu Asn Arg Glu Tyr Trp Asn Tyr Arg Gln Gly Asp Leu Ile Pro
      340      345      350
Gly Thr Pro Tyr Thr His Ala Val Gly Phe Met Pro Asn Lys Lys Ala
      355      360      365
Tyr Pro Lys Asn Thr Thr Ala Ala Ser Lys Ser His Ile Val Gly Glu
      370      375      380
Val Tyr Leu Asp Gly Asp Ala Asp Lys Pro Leu Ser Leu Ile Ile Thr
      385      390      395      400
Phe Asn Glu Thr Asp Asp Glu Ser Cys Asp Tyr Cys Met Asn Phe Gln
      405      410      415
Trp Lys Trp Gly Ala Asp Gln Tyr Lys Asp Lys Thr Leu Ala Thr Ser
      420      425      430
Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
      435      440

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<210> 56

<211> 543

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 17 Fiber

<400> 56

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Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
  1      5      10      15
Tyr Asp Thr Glu Ser Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
      20      25      30
Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
      35      40      45
Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
      50      55      60
Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
      65      70      75      80
Gln Asp Ile Thr Ser Thr Thr Pro Pro Leu Lys Lys Thr Lys Thr Asn
      85      90      95
Leu Ser Leu Glu Thr Ser Ser Pro Leu Thr Val Ser Thr Ser Gly Ala
      100      105      110
Leu Thr Val Ala Ala Ala Ala Pro Leu Ala Val Ala Gly Thr Ser Leu
      115      120      125
Thr Met Gln Ser Glu Ala Pro Leu Ala Val Gln Asp Ala Lys Leu Thr
      130      135      140
Leu Ala Thr Lys Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu
      145      150      155      160
Gln Thr Ser Ala Pro Leu Thr Ala Ala Asp Ser Ser Thr Leu Thr Val
      165      170      175
Ser Ser Thr Pro Pro Ile Ser Val Ser Ser Gly Ser Leu Gly Leu Asp
      180      185      190
Met Glu Asp Pro Met Tyr Thr His Asp Gly Lys Leu Gly Ile Arg Ile
      195      200      205
Gly Gly Pro Leu Arg Val Val Asp Ser Leu His Thr Leu Thr Val Val
      210      215      220
Thr Gly Asn Gly Leu Thr Val Asp Asn Asn Ala Leu Gln Thr Arg Val
      225      230      235      240
Thr Gly Ala Leu Gly Tyr Asp Thr Ser Gly Asn Leu Gln Leu Arg Ala
      245      250      255
Ala Gly Gly Met Arg Ile Asp Ala Asn Gly Gln Leu Ile Leu Asp Val
      260      265      270
Ala Tyr Pro Phe Asp Ala Gln Asn Asn Leu Ser Leu Arg Leu Gly Gln
      275      280      285
Gly Pro Leu Tyr Val Asn Thr Asp His Asn Leu Asp Leu Asn Cys Asn
      290      295      300
Arg Gly Leu Thr Thr Thr Thr Thr Asn Asn Thr Lys Lys Leu Glu Thr
      305      310      315      320

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Lys Ile Ser Ser Gly Leu Asp Tyr Asp Thr Asn Gly Ala Val Ile Ile
      325      330
Lys Leu Gly Thr Gly Leu Ser Phe Asp Asn Thr Gly Ala Leu Thr Val
      340      345      350
Gly Asn Thr Gly Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro
      355      360      365
Ser Pro Asn Cys Arg Ile His Ser Asp Lys Asp Cys Lys Phe Thr Leu
      370      375      380
Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Ser Val Ala Ala Leu
      385      390      395      400
Ala Val Ser Gly Asn Leu Ala Ser Ile Thr Gly Thr Val Ala Ser Val
      405      410      415
Thr Ile Phe Leu Arg Phe Asp Gln Asn Gly Val Leu Met Glu Asn Ser
      420      425      430
Ser Leu Asp Lys Gln Tyr Trp Asn Phe Arg Asn Gly Asn Ser Thr Asn
      435      440      445
Ala Ala Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Ala Ala
      450      455      460
Tyr Pro Lys Thr Gln Ser Gln Thr Ala Lys Asn Asn Ile Val Ser Gln
      465      470      475      480
Val Tyr Leu Asn Gly Asp Lys Ser Lys Pro Met Thr Leu Thr Ile Thr
      485      490      495
Leu Asn Gly Thr Asn Glu Ser Ser Glu Thr Ser Gln Val Ser His Tyr
      500      505      510
Ser Met Ser Phe Thr Trp Ala Trp Glu Ser Gly Gln Tyr Ala Thr Glu
      515      520      525
Thr Phe Ala Thr Asn Ser Phe Thr Phe Ser Tyr Ile Ala Glu Gln
      530      535      540

```

<210> 57

<211> 543

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 19 Fiber

<400> 57

```

Met Lys Arg Thr Lys Thr Ser Asp Lys Ser Phe Asn Pro Val Tyr Pro
  1      5      10      15
Tyr Asp Thr Glu Asn Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
      20      25      30
Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
      35      40      45
Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
      50      55      60
Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
      65      70      75      80
Gln Asp Val Thr Thr Thr Thr Pro Pro Leu Lys Lys Thr Lys Thr Asn
      85      90      95
Leu Ser Leu Glu Thr Ser Ala Pro Leu Thr Val Ser Thr Ser Gly Ala
      100      105      110
Leu Thr Leu Ala Ala Ala Ala Pro Leu Ala Val Ala Gly Thr Ser Leu
      115      120      125
Thr Met Gln Ser Glu Ala Pro Leu Thr Val Gln Asp Ala Lys Leu Thr
      130      135      140
Leu Ala Thr Lys Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu
      145      150      155      160
Gln Thr Ser Ala Pro Leu Thr Ala Ala Asp Ser Ser Thr Leu Thr Val
      165      170      175
Ser Ala Thr Pro Pro Ile Ser Val Ser Ser Gly Ser Leu Gly Leu Asp
      180      185      190
Met Glu Asp Pro Met Tyr Thr His Asp Gly Lys Leu Gly Ile Arg Ile
      195      200      205

```

Gly 210	Pro	Leu	Arg	Val	Val 215	Asp	Ser	Leu	His	Thr 220	Leu	Thr	Val	Val	
Thr 225	Gly	Asn	Gly	Ile	Ala 230	Val	Asp	Asn	Asn	Ala 235	Leu	Gln	Thr	Arg	Val 240
Thr	Gly	Ala	Leu	Gly 245	Tyr	Asp	Thr	Ser	Gly 250	Asn	Leu	Gln	Leu	Arg	Ala 255
Ala	Gly	Gly	Met 260	Arg	Ile	Asp	Ala	Asn 265	Gly	Gln	Leu	Ile	Leu	Asp	Val 270
Ala	Tyr	Pro 275	Phe	Asp	Ala	Gln	Asn 280	Asn	Leu	Ser	Leu	Arg	Leu	Gly	Gln 285
Gly	Pro 290	Leu	Tyr	Val	Asn	Thr 295	Asp	His	Asn	Leu	Asp 300	Leu	Asn	Cys	Asn 305
Arg 305	Gly	Leu	Thr	Thr	Thr 310	Thr	Thr	Asn	Asn	Thr 315	Lys	Lys	Leu	Glu	Thr 320
Lys	Ile	Gly	Ser	Gly 325	Leu	Asp	Tyr	Asp	Thr 330	Asn	Gly	Ala	Val	Ile	Ile 335
Lys	Leu	Gly	Thr 340	Gly	Val	Ser	Phe	Asp 345	Ser	Thr	Gly	Ala	Leu	Ser	Val 350
Gly	Asn	Thr 355	Gly	Asp	Asp	Lys	Leu	Thr 360	Leu	Trp	Thr	Thr	Pro	Asp	Pro 365
Ser	Pro 370	Asn	Cys	Arg	Ile	His 375	Ser	Asp	Lys	Asp	Cys 380	Lys	Phe	Thr	Leu 385
Val 385	Leu	Thr	Lys	Cys	Gly 390	Ser	Gln	Ile	Leu	Ala 395	Ser	Val	Ala	Ala	Leu 400
Ala	Val	Ser	Gly	Asn 405	Leu	Ala	Ser	Ile	Thr 410	Gly	Thr	Val	Ser	Ser	Val 415
Thr	Ile	Phe	Leu 420	Arg	Phe	Asp	Gln	Asn 425	Gly	Val	Leu	Met	Glu	Asn	Ser 430
Ser	Leu	Asp 435	Lys	Gln	Tyr	Trp	Asn 440	Phe	Arg	Asn	Gly	Asn	Ser	Thr	Asn 445
Ala	Thr 450	Pro	Tyr	Thr	Asn	Ala 455	Val	Gly	Phe	Met	Pro	Asn	Leu	Ala	Ala 460
Tyr 465	Pro	Lys	Thr	Gln	Ser	Gln 470	Thr	Ala	Lys	Asn 475	Asn	Ile	Val	Ser	Gln 480
Val	Tyr	Leu	Asn	Gly 485	Asp	Lys	Ser	Lys	Pro	Met	Thr	Leu	Thr	Ile	Thr 490
Leu	Asn	Gly	Thr 500	Asn	Glu	Ser	Ser	Glu 505	Thr	Ser	Gln	Val	Ser	His	Tyr 510
Ser	Met	Ser 515	Phe	Thr	Trp	Ala	Trp 520	Glu	Ser	Gly	Gln	Tyr	Ala	Thr	Glu 525
Thr	Phe 530	Ala	Thr	Asn	Ser	Phe 535	Thr	Phe	Ser	Tyr	Ile 540	Ala	Glu	Gln	

```
<210> 58
<211> 963
<212> DNA
<213> Chimapnzee Adenovirus- ChAd 8 Fiber
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<400> 58						
atgaccaaac	gagttcgact	aagcagctcc	ttcaatccgg	tctaccacct	tgaagatgaa	60
agcagctccc	aacacccctt	tataaaccct	ggtttcattt	cctcaaattg	atttacacaa	120
agcccagatg	gggtttcttac	acttaaattg	ttatcgccgc	tcaccaccac	aggcggctcc	180
cttcaactta	aagttggagg	aggattatca	gtggatgaca	ctgacgggtt	attagaagaa	240
aacataagca	ttacagcacc	acttaataaa	acaagtcact	caatagggtt	atccatagga	300
gatgggttgg	aaacaaaaaa	caaccaacta	tgtgctaagc	tgggagacgg	tcttacattt	360
aatacaggca	gcatatgcat	agatactgac	attaatacat	tatggacagg	agcaacacca	420
gacgctaatt	gcttagtcct	tggaaactgaa	tctaattgatt	gtaaacttac	actggcactt	480
gtaaagtcag	gagccttagt	aaatgcttac	gtagcacttg	ttggagcctc	agacgccgtt	540
aatgatattaa	ccacagaaaac	aagtgcctcaa	ataattgcag	acataatttt	tgatgcgcgaa	600
ggaaaaacttc	ttcctgattt	atcagcactc	aaaacagagc	taaaacacaa	atctggacaa	660
ggcacttcga	cagcagatcc	caataactgt	aaaagcttta	tgccaaagtct	aatgtcata	720

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ccactgcgcc ccaatggagg caacggaaac tatatttatg gaaccaccta ctacagggcc 780
agagatgaaa cccttttatga acttaaaacc tctgtaatgc ttaactacaa aattaccagt 840
ggactatgtg catatgccat gcattttcag tggctcttga atagtgggac taaaccagaa 900
gacactcccg ccactttcat tgcctccccc tttgtctttt cctacattag agaagatgac 960
tga 963

```

<210> 59

<211> 320

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 8 Fiber

<400> 59

```

Met Thr Lys Arg Val Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
 1          5          10          15
Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
          20          25          30
Ile Ser Ser Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu
          35          40          45
Lys Cys Leu Ser Pro Leu Thr Thr Gly Gly Ser Leu Gln Leu Lys
          50          55          60
Val Gly Gly Gly Leu Ser Val Asp Asp Thr Asp Gly Ser Leu Glu Glu
65          70          75          80
Asn Ile Ser Ile Thr Ala Pro Leu Asn Lys Thr Ser His Ser Ile Gly
          85          90          95
Leu Ser Ile Gly Asp Gly Leu Glu Thr Lys Asn Asn Gln Leu Cys Ala
          100          105          110
Lys Leu Gly Asp Gly Leu Thr Phe Asn Thr Gly Ser Ile Cys Ile Asp
          115          120          125
Thr Asp Ile Asn Thr Leu Trp Thr Gly Ala Thr Pro Asp Ala Asn Cys
          130          135          140
Leu Val Leu Gly Thr Glu Ser Asn Asp Cys Lys Leu Thr Leu Ala Leu
145          150          155          160
Val Lys Ser Gly Ala Leu Val Asn Ala Tyr Val Ala Leu Val Gly Ala
          165          170          175
Ser Asp Ala Val Asn Asp Leu Thr Thr Glu Thr Ser Ala Gln Ile Ile
          180          185          190
Ala Asp Ile Tyr Phe Asp Ala Gln Gly Lys Leu Leu Pro Asp Leu Ser
          195          200          205
Ala Leu Lys Thr Glu Leu Lys His Lys Ser Gly Gln Gly Thr Ser Thr
          210          215          220
Ala Asp Pro Asn Asn Cys Lys Ser Phe Met Pro Ser Leu Asn Ala Tyr
225          230          235          240
Pro Leu Arg Pro Asn Gly Gly Asn Gly Asn Tyr Ile Tyr Gly Thr Thr
          245          250          255
Tyr Tyr Arg Ala Arg Asp Glu Thr Leu Tyr Glu Leu Lys Thr Ser Val
          260          265          270
Met Leu Asn Tyr Lys Ile Thr Ser Gly Leu Cys Ala Tyr Ala Met His
          275          280          285
Phe Gln Trp Ser Trp Asn Ser Gly Thr Lys Pro Glu Asp Thr Pro Ala
          290          295          300
Thr Phe Ile Ala Ser Pro Phe Val Phe Ser Tyr Ile Arg Glu Asp Asp
305          310          315          320

```

<210> 60

<211> 1062

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 22 Fiber

<400> 60

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atggccaaac gagctcggct aagcagctcc ttcaatccgg tctacccta tgaagatgaa 60
agcagctcac aacaccctt tataaaccct ggtttcattt cctcaaattg ttttgcacaa 120

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agcccgatg gagttctaac tcttaaagt gttaatccgc tcaactaccgc cagcggaccc 180
ctccaactta aagttggaag cagtccttaca gtagataata tcgatgggtc tttggaggaa 240
aatataactg ccgcagcgcc actcactaaa actaaccact ccatagggtt atcaatagga 300
tctggcttgc aaacaaagga tgataaactt tgtttatcgc tgggagatgg gttggtaaca 360
aaggatgata aactatgttt atcgctggga gatgggttaa taacaaaaga tgatacacta 420
tgtgccaaac taggacatgg ccttgtgttt gactcttcca atgctatcac catagaaaac 480
aacaccttgt ggacaggtgc aaaaccaagc gccaaactgtg taattaaaga gggagaagat 540
tccccagact gtaagctcac tttagtctta gtgaagaatg gaggactgat aaatggatac 600
ataacattaa tgggagcctc agaataact aacaccttgt ttaaaaaaca acaagttaca 660
atcgatgtaa acctcgcatt tgataatact ggccaaatta tcacttacct atcatccctt 720
aaaagtaacc tgaactttta agacaaccaa aacatggcta ctggaacccat aaccagtgc 780
aaaggcttca tgcccagcac caccgcctat ccatttataa catacgccac tcagtcctta 840
aatgaagatt acatttatgg agagtgttac tacaaatcta ccaatggaac tctctttcca 900
ctaaaagtta ctgtcacact aaacagacgt atgtcagctt ctggaatggc ctatgctatg 960
aatttttcat ggtctctaaa tgcagaggaa gccccgaaa ctaccgaagt cactctcatt 1020
acctccccct tctttttttc ttatatcaga gaagatgact ga 1062

```

<210> 61

<211> 353

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 22 Fiber

<400> 61

```

Met Ala Lys Arg Ala Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
 1          5          10          15
Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
          20          25          30
Ile Ser Ser Asn Gly Phe Ala Gln Ser Pro Asp Gly Val Leu Thr Leu
 35          40          45
Lys Cys Val Asn Pro Leu Thr Thr Ala Ser Gly Pro Leu Gln Leu Lys
 50          55          60
Val Gly Ser Ser Leu Thr Val Asp Asn Ile Asp Gly Ser Leu Glu Glu
 65          70          75          80
Asn Ile Thr Ala Ala Ala Pro Leu Thr Lys Thr Asn His Ser Ile Gly
          85          90          95
Leu Ser Ile Gly Ser Gly Leu Gln Thr Lys Asp Asp Lys Leu Cys Leu
 100          105          110
Ser Leu Gly Asp Gly Leu Val Thr Lys Asp Asp Lys Leu Cys Leu Ser
 115          120          125
Leu Gly Asp Gly Leu Ile Thr Lys Asp Asp Thr Leu Cys Ala Lys Leu
 130          135          140
Gly His Gly Leu Val Phe Asp Ser Ser Asn Ala Ile Thr Ile Glu Asn
 145          150          155          160
Asn Thr Leu Trp Thr Gly Ala Lys Pro Ser Ala Asn Cys Val Ile Lys
          165          170          175
Glu Gly Glu Asp Ser Pro Asp Cys Lys Leu Thr Leu Val Leu Val Lys
 180          185          190
Asn Gly Gly Leu Ile Asn Gly Tyr Ile Thr Leu Met Gly Ala Ser Glu
 195          200          205
Tyr Thr Asn Thr Leu Phe Lys Asn Lys Gln Val Thr Ile Asp Val Asn
 210          215          220
Leu Ala Phe Asp Asn Thr Gly Gln Ile Ile Thr Tyr Leu Ser Ser Leu
 225          230          235          240
Lys Ser Asn Leu Asn Phe Lys Asp Asn Gln Asn Met Ala Thr Gly Thr
          245          250          255
Ile Thr Ser Ala Lys Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Phe
 260          265          270
Ile Thr Tyr Ala Thr Gln Ser Leu Asn Glu Asp Tyr Ile Tyr Gly Glu
 275          280          285
Cys Tyr Tyr Lys Ser Thr Asn Gly Thr Leu Phe Pro Leu Lys Val Thr
 290          295          300

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Val Thr Leu Asn Arg Arg Met Ser Ala Ser Gly Met Ala Tyr Ala Met
 305 310 315 320
 Asn Phe Ser Trp Ser Leu Asn Ala Glu Glu Ala Pro Glu Thr Thr Glu
 325 330 335
 Val Thr Leu Ile Thr Ser Pro Phe Phe Phe Ser Tyr Ile Arg Glu Asp
 340 345 350
 Asp

<210> 62
 <211> 1686
 <212> DNA
 <213> Chimpanzee Adenovirus- ChAd 24 Fiber

<400> 62
 atgtcagatt cttgctcctg tccttccgca cccactatct tcatgttggt gcagatgaag 60
 cgcacaaaaa cgtctgacga gagcttcaac cccgtgtacc cctatgacac ggaaaacggt 120
 cctccctccg tccctttcct caccctccc ttcgtgtctc ccgatggatt ccaagagagc 180
 cccccggggg tctgtctct gaacctggcc gagccccctg tcaattccca cggcatgctc 240
 gccctgaaaa tgggaagtgg cctctccctg gacgacgcc gcaacctcac ctctcaagat 300
 gtcaccacca ctaccctcc cctgaaaaaa accaagacca acctcagcct agaaacctca 360
 gccccctga ctgtgagcac ctcaggcgcc ctacacctag cggccgcgcg tcccctggcg 420
 gtggccggca cctccctcac catgcaatca gaggcccccc tgacagtaca ggatgcaaaa 480
 ctacacctgg ccaccaaggg cccctgacc gtgtctgaag gaaaactggc cttgcagacc 540
 tcggccccac tgacggccgc tgacagcagc accctcaccg ttagcgccac accaccatc 600
 aatgtaagca gtggaagttt gggcttagac atggaaaatc ccatgtatac tcatgacgga 660
 aaactgggaa taagaattgg gggcccactg agagtagtag acagcctgca cacactgact 720
 gtagttaccg gaaatggaat agctgtagat aacaatgccc tccaaactag agttacgggc 780
 gccctgggtt atgacacatc aggaaacct caactgagag ccgcgggggg tatgcgaatt 840
 gatgcaaatt gccaaattat ccttgatgtg gcatacccat ttgatgctca aaacaatctc 900
 agccttagac ttggtcaggg acccctgtat gtaaacacag accacaacct agatttgaat 960
 tgcaacagag gtctgaccac aactaccacc aacaacacaa aaaaacttga aactaaaatt 1020
 ggctcaggct tagactatga taccaatggg gctgtcatta ttaaacttgg cactgggtgc 1080
 agctttgaca gcacaggcgc cctaagtgtg ggaaactctg gcgatgataa actgactctg 1140
 tggacaaccc cagaccatc tccaaattgc agaattcact cagacaaaga ctgcaagttt 1200
 actctagtc taactaagt tggaagtcaa atcctggctt ctgtcgccgc cctagcgggtg 1260
 tcaggaaatc tggcttcaat aacaggcacc gtttccagcg ttaccatctt tctcagattt 1320
 gatcagaatg gagtgcttat ggaaaactcc tcgctagaca agcagtactg gaactttaga 1380
 aatggttaatt caaccaatgc caccctctac accaatgcag ttggtttcat gccaaacctc 1440
 gcagcatacc ccaagacaca gattcagact gctaaaaaca acattgtaag tcagggttatc 1500
 ttgaatgggg acaaatccaa acccatgac cttaccatta ccctcaatgg aactaatgaa 1560
 tcagtgaaa ctagccaggt gagtcactac tccatgtcat ttacgtgggc ttgggagagt 1620
 gggcaatatg ccaccgaaac ctttgccacc aattccttta ctttctctta cattgctgaa 1680
 caataa 1686

<210> 63
 <211> 543
 <212> PRT
 <213> Chimpanzee Adenovirus- ChAd 24 Fiber

<400> 63
 Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
 1 5 10 15
 Tyr Asp Thr Glu Asn Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
 20 25 30
 Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
 35 40 45
 Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
 50 55 60
 Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
 65 70 75 80

Gln	Asp	Val	Thr	Thr	Thr	Thr	Pro	Pro	Leu	Lys	Lys	Thr	Lys	Thr	Asn	
				85					90					95		
Leu	Ser	Leu	Glu	Thr	Ser	Ala	Pro	Leu	Thr	Val	Ser	Thr	Ser	Gly	Ala	
			100					105					110			
Leu	Thr	Leu	Ala	Ala	Ala	Ala	Pro	Leu	Ala	Val	Ala	Gly	Thr	Ser	Leu	
		115					120					125				
Thr	Met	Gln	Ser	Glu	Ala	Pro	Leu	Thr	Val	Gln	Asp	Ala	Lys	Leu	Thr	
	130					135					140					
Leu	Ala	Thr	Lys	Gly	Pro	Leu	Thr	Val	Ser	Glu	Gly	Lys	Leu	Ala	Leu	
145					150					155					160	
Gln	Thr	Ser	Ala	Pro	Leu	Thr	Ala	Ala	Asp	Ser	Ser	Thr	Leu	Thr	Val	
			165						170					175		
Ser	Ala	Thr	Pro	Pro	Ile	Asn	Val	Ser	Ser	Gly	Ser	Leu	Gly	Leu	Asp	
			180					185					190			
Met	Glu	Asn	Pro	Met	Tyr	Thr	His	Asp	Gly	Lys	Leu	Gly	Ile	Arg	Ile	
	195						200					205				
Gly	Gly	Pro	Leu	Arg	Val	Val	Asp	Ser	Leu	His	Thr	Leu	Thr	Val	Val	
	210					215						220				
Thr	Gly	Asn	Gly	Ile	Ala	Val	Asp	Asn	Asn	Ala	Leu	Gln	Thr	Arg	Val	
225					230					235					240	
Thr	Gly	Ala	Leu	Gly	Tyr	Asp	Thr	Ser	Gly	Asn	Leu	Gln	Leu	Arg	Ala	
			245						250					255		
Ala	Gly	Gly	Met	Arg	Ile	Asp	Ala	Asn	Gly	Gln	Leu	Ile	Leu	Asp	Val	
			260					265					270			
Ala	Tyr	Pro	Phe	Asp	Ala	Gln	Asn	Asn	Leu	Ser	Leu	Arg	Leu	Gly	Gln	
	275						280					285				
Gly	Pro	Leu	Tyr	Val	Asn	Thr	Asp	His	Asn	Leu	Asp	Leu	Asn	Cys	Asn	
	290					295					300					
Arg	Gly	Leu	Thr	Thr	Thr	Thr	Asn	Asn	Thr	Lys	Lys	Leu	Glu	Thr		
305					310				315					320		
Lys	Ile	Gly	Ser	Gly	Leu	Asp	Tyr	Asp	Thr	Asn	Gly	Ala	Val	Ile	Ile	
			325						330					335		
Lys	Leu	Gly	Thr	Gly	Val	Ser	Phe	Asp	Ser	Thr	Gly	Ala	Leu	Ser	Val	
			340					345					350			
Gly	Asn	Thr	Gly	Asp	Asp	Lys	Leu	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	
	355					360						365				
Ser	Pro	Asn	Cys	Arg	Ile	His	Ser	Asp	Lys	Asp	Cys	Lys	Phe	Thr	Leu	
	370					375					380					
Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Ser	Val	Ala	Ala	Leu	
385					390					395					400	
Ala	Val	Ser	Gly	Asn	Leu	Ala	Ser	Ile	Thr	Gly	Thr	Val	Ser	Ser	Val	
			405						410					415		
Thr	Ile	Phe	Leu	Arg	Phe	Asp	Gln	Asn	Gly	Val	Leu	Met	Glu	Asn	Ser	
			420					425					430			
Ser	Leu	Asp	Lys	Gln	Tyr	Trp	Asn	Phe	Arg	Asn	Gly	Asn	Ser	Thr	Asn	
	435						440					445				
Ala	Thr	Pro	Tyr	Thr	Asn	Ala	Val	Gly	Phe	Met	Pro	Asn	Leu	Ala	Ala	
	450					455					460					
Tyr	Pro	Lys	Thr	Gln	Ser	Gln	Thr	Ala	Lys	Asn	Asn	Ile	Val	Ser	Gln	
465					470					475					480	
Val	Tyr	Leu	Asn	Gly	Asp	Lys	Ser	Lys	Pro	Met	Ile	Leu	Thr	Ile	Thr	
			485						490					495		
Leu	Asn	Gly	Thr	Asn	Glu	Ser	Ser	Glu	Thr	Ser	Gln	Val	Ser	His	Tyr	
			500					505					510			
Ser	Met	Ser	Phe	Thr	Trp	Ala	Trp	Glu	Ser	Gly	Gln	Tyr	Ala	Thr	Glu	
	515						520					525				
Thr	Phe	Ala	Thr	Asn	Ser	Phe	Thr	Phe	Ser	Tyr	Ile	Ala	Glu	Gln		
	530					535					540					

<210> 64

<211> 1335

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 26 Fiber

<400> 64

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atgtccaaaa agcgcggtccg ggtggatgat gacttcgacc ccgtctaccc ctacgatgca 60
gacaacgcac cgaccgtgcc cttcatcaac ccccccttcg tctcttcaga tggattccaa 120
gagaagcccc tgggggtgct gtccctgcgt ctggccgatc ccgtcaccac caagaacggg 180
gaaatcaccc tcaagctggg agatgggggtg gacctcgacg actcgggaaa actcatctcc 240
aacacggcca ccaaggccgc cgccccctctc agttttttcca acaacacccat ttcccttaac 300
atggataccc ctcttttaca caacaatgga aagctaggta tgaaggtaac cgcaccatta 360
aagatattag acacagatct actaaaaaca cttgttggtg cttatgggca gggattagga 420
acaaacacca atggtgctct tgttgcccaa ctagcatacc cacttgtttt taataaccgt 480
agcaaaattg cccttaattt aggcaatgga ccattaaaag tggatgcaaa tagactgaac 540
attaattgca aaagaggtat ctatgtcact accacaaaag atgcactgga gattaatatc 600
agttgggcaa atgctatgac atttatagga aatgccattg gtgtcaatat tgacacaaaa 660
aaaggcctac agttcggcac ttcaagcact gaaacagatg ttaaaaatgc ttttccactc 720
caagtaaaac ttggagctgg tcttacattt gacagcacag gtgccattgt tgcttggaac 780
aaagaagatg acaaacttac actgtggacc acagccgatc catctccaaa ctgtcacata 840
tattctgcaa aggatgctaa gcttacactc tgcttgacaa agtgtggtag tcaaactcta 900
ggcactgtct ccctattagc agtcagtggc agcttggctc ctatcacagg ggctgttaga 960
actgcacttg tatcactcaa attcaatgct aatggagccc ttttgacaaa atcaactctg 1020
aacaagaat actggaacta cagacaagga gatctaattc caggtacacc atatacatc 1080
gctgtgggtt tcatgcctaa caaaaaagcc taccctaaaa acacaactgc agcttccaag 1140
agccacattg tgggtgatgt gtatttagat ggagatgcag ataaaccttt atctcttattc 1200
atcactttca atgaaactga tgatgaaacc tgtgattact gcatcaactt tcaatggaaa 1260
tggggagctg atcaatataa ggataagaca ctcgcaacca gttcattcac cttctcatac 1320
atcgcccaag aataa                                     1335

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<210> 65

<211> 444

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 26 Fiber

<400> 65

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Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1                    5                10                15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20                25                30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
      35                40                45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
      50                55                60
Lys Leu Gly Asp Gly Val Asp Leu Asp Asp Ser Gly Lys Leu Ile Ser
      65                70                75                80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85                90                95
Ile Ser Leu Asn Met Asp Thr Pro Leu Tyr Asn Asn Asn Gly Lys Leu
      100               105               110
Gly Met Lys Val Thr Ala Pro Leu Lys Ile Leu Asp Thr Asp Leu Leu
      115               120               125
Lys Thr Leu Val Val Ala Tyr Gly Gln Gly Leu Gly Thr Asn Thr Asn
      130               135               140
Gly Ala Leu Val Ala Gln Leu Ala Tyr Pro Leu Val Phe Asn Thr Ala
      145               150               155               160
Ser Lys Ile Ala Leu Asn Leu Gly Asn Gly Pro Leu Lys Val Asp Ala
      165               170               175
Asn Arg Leu Asn Ile Asn Cys Lys Arg Gly Ile Tyr Val Thr Thr
      180               185               190
Lys Asp Ala Leu Glu Ile Asn Ile Ser Trp Ala Asn Ala Met Thr Phe
      195               200               205

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Ile Gly Asn Ala Ile Gly Val Asn Ile Asp Thr Lys Lys Gly Leu Gln
  210          215          220
Phe Gly Thr Ser Ser Thr Glu Thr Asp Val Lys Asn Ala Phe Pro Leu
225          230          235          240
Gln Val Lys Leu Gly Ala Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile
          245          250          255
Val Ala Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala
          260          265          270
Asp Pro Ser Pro Asn Cys His Ile Tyr Ser Ala Lys Asp Ala Lys Leu
          275          280          285
Thr Leu Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Ser
          290          295          300
Leu Leu Ala Val Ser Gly Ser Leu Ala Pro Ile Thr Gly Ala Val Arg
305          310          315          320
Thr Ala Leu Val Ser Leu Lys Phe Asn Ala Asn Gly Ala Leu Leu Asp
          325          330          335
Lys Ser Thr Leu Asn Lys Glu Tyr Trp Asn Tyr Arg Gln Gly Asp Leu
          340          345          350
Ile Pro Gly Thr Pro Tyr Thr His Ala Val Gly Phe Met Pro Asn Lys
          355          360          365
Lys Ala Tyr Pro Lys Asn Thr Thr Ala Ala Ser Lys Ser His Ile Val
          370          375          380
Gly Asp Val Tyr Leu Asp Gly Asp Ala Asp Lys Pro Leu Ser Leu Ile
385          390          395          400
Ile Thr Phe Asn Glu Thr Asp Asp Glu Thr Cys Asp Tyr Cys Ile Asn
          405          410          415
Phe Gln Trp Lys Trp Gly Ala Asp Gln Tyr Lys Asp Lys Thr Leu Ala
          420          425          430
Thr Ser Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
          435          440

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<210> 66
<211> 1062
<212> DNA
<213> Chimpanzee Adenovirus- ChAd 30 Fiber

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<400> 66
atggccaaac gagctcggct aagcagctcc ttcaatccgg tctacccta tgaagatgaa 60
agcagctcac aacaccctt tataaacctt ggtttcattt cctcaaattg ttttgcacaa 120
agccagatg gagttctaac tcttaaattg gttaatccgc tcactaccgc cagcggacc 180
ctccaactta aagttggaag cagtcttaca gtagatacta tcgatgggtc tttggaggaa 240
aatataactg ccgcagcgcc actcactaaa actaaccact ccatagggtt atcaatagga 300
tctggcttgc aaacaaagga tgataaactt tgtttatcgc tgggagatgg gttggtaaca 360
aaggatgata aactatgttt atcgctggga gatgggttaa taacaaaaga tgatacacta 420
tgtgccaaac taggacatgg ccttgtgttt gactcttcca atgctatcac catagaaaac 480
aacaccttgt ggacaggtgc aaaaccaagc gccaaactgt taattaaaga gggagaagat 540
tccccagact gtaagctcac tttagttcta gtgaagaatg gaggactgat aaatggatac 600
ataacattaa tgggagcctc agaataact aacaccttgt ttaaaaacaa acaagttaca 660
atcgatgtaa acctcgcat tgcataact ggccaaatta tcacttacct atcatccctt 720
aaaagtaacc tgaactttta agacaaccaa aacatggcta ctggaaccat aaccagtgcc 780
aaaggcttca tgcccagcac caccgcctat ccatttataa catacgccac tcagtcccta 840
aatgaagatt acatttatgg agagtgttac tacaaatcta ccaatggaac tctctttcca 900
ctaaaagtta ctgtcacact aaacagacgt atgtcagctt ctggaatggc ctatgctatg 960
aatTTTTcat ggtctctaaa tgcagaggaa gccccgaaa ctaccgaagt cactctcatt 1020
acctccccct tctTTTTttc ttatatcaga gaagatgact ga 1062

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```

<210> 67
<211> 353
<212> PRT
<213> Chimpanzee Adenovirus- ChAd 30 Fiber

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<400> 67

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Met Ala Lys Arg Ala Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
 1          5          10          15
Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
          20          25          30
Ile Ser Ser Asn Gly Phe Ala Gln Ser Pro Asp Gly Val Leu Thr Leu
          35          40          45
Lys Cys Val Asn Pro Leu Thr Thr Ala Ser Gly Pro Leu Gln Leu Lys
          50          55          60
Val Gly Ser Ser Leu Thr Val Asp Thr Ile Asp Gly Ser Leu Glu Glu
65          70          75          80
Asn Ile Thr Ala Ala Pro Leu Thr Lys Thr Asn His Ser Ile Gly
          85          90          95
Leu Ser Ile Gly Ser Gly Leu Gln Thr Lys Asp Asp Lys Leu Cys Leu
          100          105          110
Ser Leu Gly Asp Gly Leu Val Thr Lys Asp Asp Lys Leu Cys Leu Ser
          115          120          125
Leu Gly Asp Gly Leu Ile Thr Lys Asp Asp Thr Leu Cys Ala Lys Leu
          130          135          140
Gly His Gly Leu Val Phe Asp Ser Ser Asn Ala Ile Thr Ile Glu Asn
145          150          155          160
Asn Thr Leu Trp Thr Gly Ala Lys Pro Ser Ala Asn Cys Val Ile Lys
          165          170          175
Glu Gly Glu Asp Ser Pro Asp Cys Lys Leu Thr Leu Val Leu Val Lys
          180          185          190
Asn Gly Gly Leu Ile Asn Gly Tyr Ile Thr Leu Met Gly Ala Ser Glu
          195          200          205
Tyr Thr Asn Thr Leu Phe Lys Asn Lys Gln Val Thr Ile Asp Val Asn
          210          215          220
Leu Ala Phe Asp Asn Thr Gly Gln Ile Ile Thr Tyr Leu Ser Ser Leu
225          230          235          240
Lys Ser Asn Leu Asn Phe Lys Asp Asn Gln Asn Met Ala Thr Gly Thr
          245          250          255
Ile Thr Ser Ala Lys Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Phe
          260          265          270
Ile Thr Tyr Ala Thr Gln Ser Leu Asn Glu Asp Tyr Ile Tyr Gly Glu
          275          280          285
Cys Tyr Tyr Lys Ser Thr Asn Gly Thr Leu Phe Pro Leu Lys Val Thr
          290          295          300
Val Thr Leu Asn Arg Arg Met Ser Ala Ser Gly Met Ala Tyr Ala Met
305          310          315          320
Asn Phe Ser Trp Ser Leu Asn Ala Glu Glu Ala Pro Glu Thr Thr Glu
          325          330          335
Val Thr Leu Ile Thr Ser Pro Phe Phe Phe Ser Tyr Ile Arg Glu Asp
          340          345          350
Asp

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<210> 68

<211> 1791

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 31 Fiber

<400> 68

```

atgtcagatt cttgctcctg tccctccgca ccactatct tcatgttggt gcagatgaag 60
cgcacaaaaa cgtctgacga gagcttcaac cccgtgtacc cctatgacac ggaaagcggc 120
cctccctccg tccctttcct caccctccc ttggtgtctc ccgatggatt ccaagaaagt 180
cccccgggg tcctgtctct gaacctggcc gagcccctgg tcacttccca cggcatgctc 240
gccctgaaaa tgggaagtgg cctctccctg gacgacgtg gcaacctcac ctctcaagat 300
atcaccaccg ctagccctcc cctcaaaaaa accaagacca acctcagcct agaaacctca 360
tcccccttaa ctgtgagcac ctcaggcgcc ctcaccgtag cagccgccgc tcccctggcg 420

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gtggccggca cctccctcac catgcaatca gagggccccc tgacagtaca ggatgcaaaa 480
ctcaccctgg ccaccaaagg ccccttgacc gtgtctgaag gcaaactggc cttgcaaaaa 540
tcggcccccgc tgacggccgc tgacagcagc accctcacag tcagtgccac accaccctt 600
agcacaagca atggcagctt ggggtattgac atgcaagccc ccattttacac caccaatgga 660
aaactaggac ttaacttttg cgctcccctg catgtggtag acagcctaaa tgcaactgact 720
gtagtacttg gccaaagtct tacgataaac ggaacagccc taaaaactag agtctcaggt 780
gccctcaact atgacacatc aggaaaccta gaattgagag ctgcaggggg tatgcgagtt 840
gatgcaaatg gtcaacttat ccttgatgta gcttaccat ttgatgcaca aaacaatctc 900
agccttaggc ttggacaggg acccctggtt gttaactctg cccacaactt ggatgttaac 960
tacaacagag gcctctacct gttcacatct ggaaatacca aaaagctaga agttaatatc 1020
aaaacagcca aggtgtctcat ttatgatgac actgctatag caatcaatgc gggatgatgg 1080
ctacagtttg actcaggctc agatacaaat ccattaaaaa ctaaacttgg attaggactg 1140
gattatgact ccagcagagc cataattgct aaactgggaa ctggcctaag ctttgacaac 1200
acaggtgcca tcacagtagg caacaaaaat gatgacaagc ttaccttgtg gaccacacca 1260
gacccatccc ctaactgtag aatctattca gagaaagatg ctaaattcac acttggtttg 1320
actaaatgcg gcagtcaggt gttggccagc gtttctgttt tatctgtaaa aggtagcctt 1380
gcgcccatac gtggcacagt aactagtgtc cagattgtcc tcagatttga tgaaaatgga 1440
gttctactaa gcaattcttc ccttgaccct caatactgga actacagaaa aggtgacctt 1500
acagaggggca ctgcatatac caacgcagtg ggatttatgc ccaacctcac agcataccca 1560
aaaacacaga gccaaactgc taaaagcaac attgtaagtc aggtttactt gaatggggac 1620
aaatccaaac ccatgaccct caccattacc ctcaatggaa ctaatgaaac aggagatgcc 1680
acagtaagca cttactccat gtcattctca tggaactgga atggaagtaa ttacattaat 1740
gaaacgttcc aaaccaactc cttcaccttc tcctacatcg cccaagaata a 1791

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<210> 69

<211> 578

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 31 Fiber

<400> 69

```

Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
1          5          10          15
Tyr Asp Thr Glu Ser Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
20          25          30
Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
35          40          45
Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
50          55          60
Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
65          70          75          80
Gln Asp Ile Thr Thr Ala Ser Pro Pro Leu Lys Lys Thr Lys Thr Asn
85          90          95
Leu Ser Leu Glu Thr Ser Ser Pro Leu Thr Val Ser Thr Ser Gly Ala
100         105         110
Leu Thr Val Ala Ala Ala Ala Pro Leu Ala Val Ala Gly Thr Ser Leu
115         120         125
Thr Met Gln Ser Glu Ala Pro Leu Thr Val Gln Asp Ala Lys Leu Thr
130         135         140
Leu Ala Thr Lys Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu
145         150         155         160
Gln Thr Ser Ala Pro Leu Thr Ala Ala Asp Ser Ser Thr Leu Thr Val
165         170         175
Ser Ala Thr Pro Pro Leu Ser Thr Ser Asn Gly Ser Leu Gly Ile Asp
180         185         190
Met Gln Ala Pro Ile Tyr Thr Thr Asn Gly Lys Leu Gly Leu Asn Phe
195         200         205
Gly Ala Pro Leu His Val Val Asp Ser Leu Asn Ala Leu Thr Val Val
210         215         220
Thr Gly Gln Gly Leu Thr Ile Asn Gly Thr Ala Leu Gln Thr Arg Val
225         230         235         240

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Ser Gly Ala Leu Asn Tyr Asp Thr Ser Gly Asn Leu Glu Leu Arg Ala
 245 250 255
 Ala Gly Gly Met Arg Val Asp Ala Asn Gly Gln Leu Ile Leu Asp Val
 260 265 270
 Ala Tyr Pro Phe Asp Ala Gln Asn Asn Leu Ser Leu Arg Leu Gly Gln
 275 280 285
 Gly Pro Leu Phe Val Asn Ser Ala His Asn Leu Asp Val Asn Tyr Asn
 290 295 300
 Arg Gly Leu Tyr Leu Phe Thr Ser Gly Asn Thr Lys Lys Leu Glu Val
 305 310 315 320
 Asn Ile Lys Thr Ala Lys Gly Leu Ile Tyr Asp Asp Thr Ala Ile Ala
 325 330 335
 Ile Asn Ala Gly Asp Gly Leu Gln Phe Asp Ser Gly Ser Asp Thr Asn
 340 345 350
 Pro Leu Lys Thr Lys Leu Gly Leu Gly Leu Asp Tyr Asp Ser Ser Arg
 355 360 365
 Ala Ile Ile Ala Lys Leu Gly Thr Gly Leu Ser Phe Asp Asn Thr Gly
 370 375 380
 Ala Ile Thr Val Gly Asn Lys Asn Asp Asp Lys Leu Thr Leu Trp Thr
 385 390 395 400
 Thr Pro Asp Pro Ser Pro Asn Cys Arg Ile Tyr Ser Glu Lys Asp Ala
 405 410 415
 Lys Phe Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Val Leu Ala Ser
 420 425 430
 Val Ser Val Leu Ser Val Lys Gly Ser Leu Ala Pro Ile Ser Gly Thr
 435 440 445
 Val Thr Ser Ala Gln Ile Val Leu Arg Phe Asp Glu Asn Gly Val Leu
 450 455 460
 Leu Ser Asn Ser Ser Leu Asp Pro Gln Tyr Trp Asn Tyr Arg Lys Gly
 465 470 475 480
 Asp Leu Thr Glu Gly Thr Ala Tyr Thr Asn Ala Val Gly Phe Met Pro
 485 490 495
 Asn Leu Thr Ala Tyr Pro Lys Thr Gln Ser Gln Thr Ala Lys Ser Asn
 500 505 510
 Ile Val Ser Gln Val Tyr Leu Asn Gly Asp Lys Ser Lys Pro Met Thr
 515 520 525
 Leu Thr Ile Thr Leu Asn Gly Thr Asn Glu Thr Gly Asp Ala Thr Val
 530 535 540
 Ser Thr Tyr Ser Met Ser Phe Ser Trp Asn Trp Asn Gly Ser Asn Tyr
 545 550 555 560
 Ile Asn Glu Thr Phe Gln Thr Asn Ser Phe Thr Phe Ser Tyr Ile Ala
 565 570 575
 Gln Glu

<210> 70

<211> 978

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 37 Fiber

<400> 70

atggccaaac gggctcgtct aagcagctcc ttcaaccggt tgtacccta tgaagacgag 60
 agcagctcac aacacccatt tataaacccc ggcttcattt cccctgatgg ctttacacaa 120
 agcccagacg gagttctaac actgaaatgt gtttcccctc ttactaccac cagtggcgct 180
 ctagacatta aagtgggaag agggcttaaa gtagatagca ctgatgggtc cctggaagaa 240
 aatatagaca ttacagctcc cctcactaaa tttaaccact cagtaggatt agcatttggc 300
 gacggtctag aaacaaaaga aaacaagctt tatgtaaaac ttggagatgg acttaaat 360
 agctctggga gtataatcat tgaccatgat gttaacactt tatggacagg agtcaatcca 420
 agtgctaact gtataattac agacaatgga gaaaccaatg acagcaagct taccctaata 480
 cttgttaagt caggtggatt aataaatgct tatgtctcat taatgggtga ctcagacaca 540
 gtcaataaat taaccacaga aaaaagtgtc caaattaccg ttgacatata ctttgataat 600

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caaggaaaag ttcttactga actatcggcc cttaaaacag atcttaaaca taaatttggt 660
caaaacatgg cttctagcga agtatcaaac tgcaaaggct ttatgccaag cttaaatgca 720
taccattca gaaatccaac taaacctacc aaaggaagag aagactacat ttatggaata 780
acttactatc aagccacaga tggtaatctc tatgagctaa aaactactat tactctaaac 840
cacagtgtca ttagttctct atgtgcatat gcaatgcaca ttatcatggc atgggacacc 900
gtaacagagc cagagacaac acccactact cttattacct ccccttctc cttttcctat 960
atcagagaag atgactga 978

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<210> 71

<211> 325

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 37 Fiber

<400> 71

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Met Ala Lys Arg Ala Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
 1          5          10          15
Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
          20          25          30
Ile Ser Pro Asp Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu
          35          40          45
Lys Cys Val Ser Pro Leu Thr Thr Ser Gly Ala Leu Asp Ile Lys
          50          55          60
Val Gly Arg Gly Leu Lys Val Asp Ser Thr Asp Gly Ser Leu Glu Glu
65          70          75          80
Asn Ile Asp Ile Thr Ala Pro Leu Thr Lys Phe Asn His Ser Val Gly
          85          90          95
Leu Ala Phe Gly Asp Gly Leu Glu Thr Lys Glu Asn Lys Leu Tyr Val
          100          105          110
Lys Leu Gly Asp Gly Leu Lys Phe Ser Ser Gly Ser Ile Tyr Ile Asp
          115          120          125
His Asp Val Asn Thr Leu Trp Thr Gly Val Asn Pro Ser Ala Asn Cys
130          135          140
Ile Ile Thr Asp Asn Gly Glu Thr Asn Asp Ser Lys Leu Thr Leu Ile
145          150          155          160
Leu Val Lys Ser Gly Gly Leu Ile Asn Ala Tyr Val Ser Leu Met Gly
          165          170          175
Asp Ser Asp Thr Val Asn Lys Leu Thr Thr Glu Lys Ser Ala Gln Ile
          180          185          190
Thr Val Asp Ile Tyr Phe Asp Asn Gln Gly Lys Val Leu Thr Glu Leu
          195          200          205
Ser Ala Leu Lys Thr Asp Leu Lys His Lys Phe Gly Gln Asn Met Ala
210          215          220
Ser Ser Glu Val Ser Asn Cys Lys Gly Phe Met Pro Ser Leu Asn Ala
225          230          235          240
Tyr Pro Phe Arg Asn Pro Thr Lys Pro Thr Lys Gly Arg Glu Asp Tyr
          245          250          255
Ile Tyr Gly Ile Thr Tyr Tyr Gln Ala Thr Asp Gly Asn Leu Tyr Glu
          260          265          270
Leu Lys Thr Thr Ile Thr Leu Asn His Ser Val Ile Ser Ser Leu Cys
          275          280          285
Ala Tyr Ala Met His Ile Ser Trp Ser Trp Asp Thr Val Thr Glu Pro
          290          295          300
Glu Thr Thr Pro Thr Thr Leu Ile Thr Ser Pro Phe Ser Phe Ser Tyr
305          310          315          320
Ile Arg Glu Asp Asp
          325

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<210> 72

<211> 1332

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 38 Fiber

<400> 72

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gacaacgcac cgaccgtgcc cttcatcaac ccccccttcg tctcttcaga tggattccaa 120
gagaagcccc tgggggtggt gtccctgcga ctggccgacc ccgtcaccac caagaacggg 180
gaaatcacc tcaagctggg agaggggggtg gacctcgact cctcgggaaa actcatctcc 240
aacacggcca ccaaggccgc cgcccctctc agtttttcca acaacaccat ttcccttaac 300
atggataccc ctttttatac caaagatgga aaattatcct tacaagtttc tccaccatta 360
aacatattaa aatcaacccat tctgaacaca ttagctgtag cttatggatc aggttttagga 420
ctcagtgggtg gcaactgctct tgcagtacag ttggcctctc cactcacctt tgatgaaaaa 480
ggaaatatta aaattaacct agccagtggg ccattaacag ttgatgcaag tcgacttagt 540
atcaactgca aaagaggggt cactgtcact accgcaggag atgcaattaa aagcaacata 600
agctggccta aaggtataag atttgaaggc gatgccatag ctgcaaacad tggcagagga 660
ttggaatttg gaaccactag tacagagact gatgtcacag atgcataccc aattcaagtt 720
aaattgggta ctggtctcac ctttgacagt acaggcgcca ttggtgcatg gaacaaagag 780
gatgataaac ttacattatg gaccacagcc gaccctcgc caaattgcaa aatatactct 840
gaaaaagatg ctaaaactcac actttgcttg acaaaatgtg gaagccaaat tctgggcact 900
gtgactgtat tggcagtga taatggaagt ctcaacccaa tcacaaacac agtaagcact 960
gcacttgtct ccctcaagtt tgatgcaagt ggagttttgc taagcagctc cacattagac 1020
aaagaatatt ggaacttccg aaaggagat gttacacctg ctgaacccta tactaatgct 1080
ataggtttta tgcctaacct aaaggcctat cctaaaaaca catctgcagc ttcaaaaagc 1140
catattgtca gtcaagttta tctcaatggg gatgaaacca aacctctgat gctgattatt 1200
acttttaagt aaactgagga tgcaacttgc acctatagta tcacttttca atggaaatgg 1260
gatagtacta agtacacagg taaaacactt gctaccagct ccttcacctt ctctacatt 1320
gctcaagaat ga 1332

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<210> 73

<211> 443

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 38 Fiber

<400> 73

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Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1          5          10          15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
 20          25          30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
 35          40          45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
 50          55          60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
 65          70          75          80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
 85          90          95
Ile Ser Leu Asn Met Asp Thr Pro Phe Tyr Thr Lys Asp Gly Lys Leu
 100          105          110
Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Lys Ser Thr Ile Leu
 115          120          125
Asn Thr Leu Ala Val Ala Tyr Gly Ser Gly Leu Gly Leu Ser Gly Gly
 130          135          140
Thr Ala Leu Ala Val Gln Leu Ala Ser Pro Leu Thr Phe Asp Glu Lys
 145          150          155          160
Gly Asn Ile Lys Ile Asn Leu Ala Ser Gly Pro Leu Thr Val Asp Ala
 165          170          175
Ser Arg Leu Ser Ile Asn Cys Lys Arg Gly Val Thr Val Thr Thr Ala
 180          185          190
Gly Asp Ala Ile Lys Ser Asn Ile Ser Trp Pro Lys Gly Ile Arg Phe
 195          200          205
Glu Gly Asp Ala Ile Ala Ala Asn Ile Gly Arg Gly Leu Glu Phe Gly
 210          215          220

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Thr Thr Ser Thr Glu Thr Asp Val Thr Asp Ala Tyr Pro Ile Gln Val
225                230                235                240
Lys Leu Gly Thr Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile Val Ala
                245                250                255
Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala Asp Pro
260                265                270
Ser Pro Asn Cys Lys Ile Tyr Ser Glu Lys Asp Ala Lys Leu Thr Leu
275                280                285
Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Thr Val Leu
290                295                300
Ala Val Asn Asn Gly Ser Leu Asn Pro Ile Thr Asn Thr Val Ser Thr
305                310                315
Ala Leu Val Ser Leu Lys Phe Asp Ala Ser Gly Val Leu Leu Ser Ser
325                330                335
Ser Thr Leu Asp Lys Glu Tyr Trp Asn Phe Arg Lys Gly Asp Val Thr
340                345                350
Pro Ala Glu Pro Tyr Thr Asn Ala Ile Gly Phe Met Pro Asn Ile Lys
355                360                365
Ala Tyr Pro Lys Asn Thr Ser Ala Ala Ser Lys Ser His Ile Val Ser
370                375                380
Gln Val Tyr Leu Asn Gly Asp Glu Thr Lys Pro Leu Met Leu Ile Ile
385                390                395
Thr Phe Asn Glu Thr Glu Asp Ala Thr Cys Thr Tyr Ser Ile Thr Phe
405                410                415
Gln Trp Lys Trp Asp Ser Thr Lys Tyr Thr Gly Lys Thr Leu Ala Thr
420                425                430
Ser Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
435                440

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<210> 74

<211> 1332

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 44 Fiber

<400> 74

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atgtccaaaa agcgcggtccg ggtggatgat gacttcgacc ccgtctaccc ctacgatgca 60
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gagaagcccc tgggggtgtt gtccctgcga ctggctgacc ccgtcaccac caagaacggg 180
gaaatcaccc tcaagctggg agagggggtg gacctcgact cgtcgggaaa actcatctcc 240
aacacggcca ccaaggccgc cgcccctctc agtatttcaa acaacacccat ttcccttaaa 300
actgctgccc ctttctacaa caacaatgga actttaagcc tcaatgtctc cacaccatta 360
gcagtatttc ccacatttaa cacttttagg ataagtcttg gaaacggtct tcagacttca 420
aataagttgt tgactgtaca actaactcat cctcttacat tcagctcaaa tagcatcaca 480
gtaaaaacag acaaagggt atatatataac tccagtggaa acagaggact tgaggctaata 540
ataagcctaa aaagaggact agtttttgac ggtaatgcta ttgcaacata tattggaaat 600
ggcttagact atggatctta tgatagtgat ggaaaaacaa gaccgtaata taccaaaatt 660
ggagcaggat taaattttga tgctaacaaa gcaatagctg tcaaactagg cacagggtta 720
agttttgact ccgctggtgc cttgacagct ggaaacaaac aggatgacaa gctaacactt 780
tgactacccc ctgacccaag ccctaattgt caattacttt cagacagaga tgccaaattt 840
actctctgtc ttacaaaatg cggtagtcaa atactaggca ctgtggcagt ggcggctgtt 900
actgtaggat ctagactaaa tccaattaat gacacagtca aaagcgccat agttttcctt 960
agatttgatt ccgatggtgt actcatgtca aactcatcaa tggtaggtga ttactggaac 1020
tttagggagg gacagaccac tcaaagtgtg gcctatacaa atgctgtggg attcatgcca 1080
aatatagggt catatccaaa aacccaaagt aaaacaccta aaaatagcat agtcagtcag 1140
gtatatthaa ctggagaaac tactatgcca atgacactaa ccataacttt caatggcact 1200
gatgaaaaag acacaacccc agttagcacc tactctatga cttttacatg gcagtgagact 1260
ggagactata aggacaaaaa tattaccttt gctaccaact cattctcttt ttcctacatc 1320
gcccaggaat aa
1332

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<210> 75

<211> 443

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 44 Fiber

<400> 75

Met	Ser	Lys	Lys	Arg	Val	Arg	Val	Asp	Asp	Asp	Phe	Asp	Pro	Val	Tyr	1	5	10	15
Pro	Tyr	Asp	Ala	Asp	Asn	Ala	Pro	Thr	Val	Pro	Phe	Ile	Asn	Pro	Pro	20	25	30	
Phe	Val	Ser	Ser	Asp	Gly	Phe	Gln	Glu	Lys	Pro	Leu	Gly	Val	Leu	Ser	35	40	45	
Leu	Arg	Leu	Ala	Asp	Pro	Val	Thr	Thr	Lys	Asn	Gly	Glu	Ile	Thr	Leu	50	55	60	
Lys	Leu	Gly	Glu	Gly	Val	Asp	Leu	Asp	Ser	Ser	Gly	Lys	Leu	Ile	Ser	65	70	75	80
Asn	Thr	Ala	Thr	Lys	Ala	Ala	Ala	Pro	Leu	Ser	Ile	Ser	Asn	Asn	Thr	85	90	95	
Ile	Ser	Leu	Lys	Thr	Ala	Ala	Pro	Phe	Tyr	Asn	Asn	Asn	Gly	Thr	Leu	100	105	110	
Ser	Leu	Asn	Val	Ser	Thr	Pro	Leu	Ala	Val	Phe	Pro	Thr	Phe	Asn	Thr	115	120	125	
Leu	Gly	Ile	Ser	Leu	Gly	Asn	Gly	Leu	Gln	Thr	Ser	Asn	Lys	Leu	Leu	130	135	140	
Thr	Val	Gln	Leu	Thr	His	Pro	Leu	Thr	Phe	Ser	Ser	Asn	Ser	Ile	Thr	145	150	155	160
Val	Lys	Thr	Asp	Lys	Gly	Leu	Tyr	Ile	Asn	Ser	Ser	Gly	Asn	Arg	Gly	165	170	175	
Leu	Glu	Ala	Asn	Ile	Ser	Leu	Lys	Arg	Gly	Leu	Val	Phe	Asp	Gly	Asn	180	185	190	
Ala	Ile	Ala	Thr	Tyr	Ile	Gly	Asn	Gly	Leu	Asp	Tyr	Gly	Ser	Tyr	Asp	195	200	205	
Ser	Asp	Gly	Lys	Thr	Arg	Pro	Val	Ile	Thr	Lys	Ile	Gly	Ala	Gly	Leu	210	215	220	
Asn	Phe	Asp	Ala	Asn	Lys	Ala	Ile	Ala	Val	Lys	Leu	Gly	Thr	Gly	Leu	225	230	235	240
Ser	Phe	Asp	Ser	Ala	Gly	Ala	Leu	Thr	Ala	Gly	Asn	Lys	Gln	Asp	Asp	245	250	255	
Lys	Leu	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Gln	Leu	260	265	270	
Leu	Ser	Asp	Arg	Asp	Ala	Lys	Phe	Thr	Leu	Cys	Leu	Thr	Lys	Cys	Gly	275	280	285	
Ser	Gln	Ile	Leu	Gly	Thr	Val	Ala	Val	Ala	Ala	Val	Thr	Val	Gly	Ser	290	295	300	
Ala	Leu	Asn	Pro	Ile	Asn	Asp	Thr	Val	Lys	Ser	Ala	Ile	Val	Phe	Leu	305	310	315	320
Arg	Phe	Asp	Ser	Asp	Gly	Val	Leu	Met	Ser	Asn	Ser	Ser	Met	Val	Gly	325	330	335	
Asp	Tyr	Trp	Asn	Phe	Arg	Glu	Gly	Gln	Thr	Thr	Gln	Ser	Val	Ala	Tyr	340	345	350	
Thr	Asn	Ala	Val	Gly	Phe	Met	Pro	Asn	Ile	Gly	Ala	Tyr	Pro	Lys	Thr	355	360	365	
Gln	Ser	Lys	Thr	Pro	Lys	Asn	Ser	Ile	Val	Ser	Gln	Val	Tyr	Leu	Thr	370	375	380	
Gly	Glu	Thr	Thr	Met	Pro	Met	Thr	Leu	Thr	Ile	Thr	Phe	Asn	Gly	Thr	385	390	395	400
Asp	Glu	Lys	Asp	Thr	Thr	Pro	Val	Ser	Thr	Tyr	Ser	Met	Thr	Phe	Thr	405	410	415	
Trp	Gln	Trp	Thr	Gly	Asp	Tyr	Lys	Asp	Lys	Asn	Ile	Thr	Phe	Ala	Thr	420	425	430	
Asn	Ser	Phe	Ser	Phe	Ser	Tyr	Ile	Ala	Gln	Glu						435	440		

<210> 76
 <211> 1278
 <212> DNA
 <213> Chimpanzee Adenovirus- ChAd 63 Fiber

<400> 76
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 gagaagcccc tgggggtgct gtccctgcga ctggccgacc ccgtcaccac caagaacggg 180
 gaaatcaccc tcaagctggg agagggggtg gacctcgact cctcgggaaa actcatctcc 240
 aacacggcca ccaaggccgc cgccccctctc agtttttcca acaacacccat ttcccttaac 300
 atggatcacc ccttttacac taaagatgga aaattatcct tacaagtttc tccaccatta 360
 aatatactga gaacaagcat tctaaacaca ctagctttag gttttggatc aggttttagga 420
 ctccgtggct ctgccttggc agtacagtta gtctctccac ttacatttga tactgatgga 480
 aacataaagc ttaccttaga cagaggtttg catgttacaa caggagatgc aattgaaagc 540
 aacataagct gggctaaagg tttaaaattt gaagatggag ccatagcaac caacattgga 600
 aatgggttag agtttggaag cagtagtaca gaaacaggtg ttgatgatgc ttacccaatc 660
 caagttaaac ttggatctgg ccttagcttt gacagtacag gagccataat ggctggtaac 720
 aaagaagacg ataaactcac tttgtggaca acacctgatc catcgccaaa ctgtcaaata 780
 ctgcagaaa atgatgcaaa actaacactt tgcttgacta aatgtggtag tcaaatactg 840
 gccactgtgt cagtcttagt tgtaggaagt ggaacaccaa accccattac tggcacccga 900
 agcagtgtct aggtgtttct acgttttgat gcaaacggtg ttcttttaac agaacattct 960
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 aaaaataata tagtagggca agtatacatg aatggagatg tttcaaaacc tatgcttctc 1140
 actataaccc tcaatggtac tgatgacagc aacagtacat attcaatgtc attttcatac 1200
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 tacatcgccc aagaatga 1278

<210> 77
 <211> 425
 <212> PRT
 <213> Chimpanzee Adenovirus- ChAd 63 Fiber

<400> 77
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 1 5 10 15
 Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
 20 25 30
 Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
 35 40 45
 Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
 50 55 60
 Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
 65 70 75 80
 Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
 85 90 95
 Ile Ser Leu Asn Met Asp His Pro Phe Tyr Thr Lys Asp Gly Lys Leu
 100 105 110
 Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Arg Thr Ser Ile Leu
 115 120 125
 Asn Thr Leu Ala Leu Gly Phe Gly Ser Gly Leu Gly Leu Arg Gly Ser
 130 135 140
 Ala Leu Ala Val Gln Leu Val Ser Pro Leu Thr Phe Asp Thr Asp Gly
 145 150 155 160
 Asn Ile Lys Leu Thr Leu Asp Arg Gly Leu His Val Thr Thr Gly Asp
 165 170 175
 Ala Ile Glu Ser Asn Ile Ser Trp Ala Lys Gly Leu Lys Phe Glu Asp
 180 185 190
 Gly Ala Ile Ala Thr Asn Ile Gly Asn Gly Leu Glu Phe Gly Ser Ser
 195 200 205

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Ser Thr Glu Thr Gly Val Asp Asp Ala Tyr Pro Ile Gln Val Lys Leu
 210                               215                220
Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Ile Met Ala Gly Asn
225                               230                235                240
Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro
                               245                250                255
Asn Cys Gln Ile Leu Ala Glu Asn Asp Ala Lys Leu Thr Leu Cys Leu
                               260                265                270
Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Val Val
                               275                280                285
Gly Ser Gly Asn Leu Asn Pro Ile Thr Gly Thr Val Ser Ser Ala Gln
                               290                295                300
Val Phe Leu Arg Phe Asp Ala Asn Gly Val Leu Leu Thr Glu His Ser
305                               310                315                320
Thr Leu Lys Lys Tyr Trp Gly Tyr Arg Gln Gly Asp Ser Ile Asp Gly
                               325                330                335
Thr Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Lys Ala Tyr
                               340                345                350
Pro Lys Ser Gln Ser Ser Thr Thr Lys Asn Asn Ile Val Gly Gln Val
                               355                360                365
Tyr Met Asn Gly Asp Val Ser Lys Pro Met Leu Leu Thr Ile Thr Leu
                               370                375                380
Asn Gly Thr Asp Asp Ser Asn Ser Thr Tyr Ser Met Ser Phe Ser Tyr
385                               390                395                400
Thr Trp Thr Asn Gly Ser Tyr Val Gly Ala Thr Phe Gly Ala Asn Ser
                               405                410                415
Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
                               420                425

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<210> 78

<211> 1338

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 82 Fiber

<400> 78

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gaaaagcccc tgggggtggt gtccctgcga ctggccgatc ccgtcaccac caagaacggg 180
gctgtcacc tcaagctggg ggaggggggtg gacctcgacg actcgggaaa actcatctcc 240
aaaaatgcca ccaaggccac tgcccctctc agtatttcca acaacacccat ttcccttaac 300
atggataccc ctctttacaa caacaatgga aagctaggta tgaaggtaac cgcaccatta 360
aagatattag acacagatct actaaaaaca cttgttggtg cttatgggca gggattagga 420
acaaacacca atggtgctct tgttgcccaa ctagcatacc cacttgtttt taataccgct 480
agcaaaattg cccttaattt aggcaatgga ccattaaaag tggatgcaaa tagactgaac 540
attaattgca aaagaggtat ctatgtcact accacaaaag atgcactgga gattaatatc 600
agttgggcaa atgctatgac atttatagga aatgccattg gtgtcaatat tgacacaaaa 660
aaaggcctac agttcggcac ttcaagcact gaaacagatg ttaaaaatgc ttttccactc 720
caagtaaaac ttggagctgg tcttacattt gacagcacag gtgccattgt tgcttgggaa 780
aaagaagatg acaaacttac actgtggacc acagccgatc catctccaaa ctgtcacata 840
tattctgcaa aggatgctaa gcttacactc tgcttgacaa agtgtggtag tcagatactg 900
ggcactgttt ctctcatagc tgttgatact ggtagcttaa atccaataac aggaaaagta 960
accactgctc ttgtttcact taaattcgat gccaatggag ttttgcaagc cagttcaaca 1020
ctagataaag aatattggaa tttcagaaaa ggagatgtga cacctgctga cccctacact 1080
aatgctatag gctttatgcc caaccttaat gcatacccaa aaaacacaaa cgcagctgca 1140
aaaagtcaca ttgttggaag agtataccta catggggatg taagcaagcc actagacttg 1200
ataattacat ttaatgaaac cagtgatgaa tcctgtactt attgcattaa ctttcagtgg 1260
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<210> 79

<211> 445

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 82 Fiber

<400> 79

Met	Ser	Lys	Lys	Arg	Ala	Arg	Val	Asp	Asp	Asp	Phe	Asp	Pro	Val	Tyr	1	5	10	15
Pro	Tyr	Asp	Ala	Asp	Asn	Ala	Pro	Thr	Val	Pro	Phe	Ile	Asn	Pro	Pro	20	25	30	
Phe	Val	Ser	Ser	Asp	Gly	Phe	Gln	Glu	Lys	Pro	Leu	Gly	Val	Leu	Ser	35	40	45	
Leu	Arg	Leu	Ala	Asp	Pro	Val	Thr	Thr	Lys	Asn	Gly	Ala	Val	Thr	Leu	50	55	60	
Lys	Leu	Gly	Glu	Gly	Val	Asp	Leu	Asp	Asp	Ser	Gly	Lys	Leu	Ile	Ser	65	70	75	80
Lys	Asn	Ala	Thr	Lys	Ala	Thr	Ala	Pro	Leu	Ser	Ile	Ser	Asn	Asn	Thr	85	90	95	
Ile	Ser	Leu	Asn	Met	Asp	Thr	Pro	Leu	Tyr	Asn	Asn	Asn	Gly	Lys	Leu	100	105	110	
Gly	Met	Lys	Val	Thr	Ala	Pro	Leu	Lys	Ile	Leu	Asp	Thr	Asp	Leu	Leu	115	120	125	
Lys	Thr	Leu	Val	Val	Ala	Tyr	Gly	Gln	Gly	Leu	Gly	Thr	Asn	Thr	Asn	130	135	140	
Gly	Ala	Leu	Val	Ala	Gln	Leu	Ala	Tyr	Pro	Leu	Val	Phe	Asn	Thr	Ala	145	150	155	160
Ser	Lys	Ile	Ala	Leu	Asn	Leu	Gly	Asn	Gly	Pro	Leu	Lys	Val	Asp	Ala	165	170	175	
Asn	Arg	Leu	Asn	Ile	Asn	Cys	Lys	Arg	Gly	Ile	Tyr	Val	Thr	Thr	Thr	180	185	190	
Lys	Asp	Ala	Leu	Glu	Ile	Asn	Ile	Ser	Trp	Ala	Asn	Ala	Met	Thr	Phe	195	200	205	
Ile	Gly	Asn	Ala	Ile	Gly	Val	Asn	Ile	Asp	Thr	Lys	Lys	Gly	Leu	Gln	210	215	220	
Phe	Gly	Thr	Ser	Ser	Thr	Glu	Thr	Asp	Val	Lys	Asn	Ala	Phe	Pro	Leu	225	230	235	240
Gln	Val	Lys	Leu	Gly	Ala	Gly	Leu	Thr	Phe	Asp	Ser	Thr	Gly	Ala	Ile	245	250	255	
Val	Ala	Trp	Asn	Lys	Glu	Asp	Asp	Lys	Leu	Thr	Leu	Trp	Thr	Thr	Ala	260	265	270	
Asp	Pro	Ser	Pro	Asn	Cys	His	Ile	Tyr	Ser	Ala	Lys	Asp	Ala	Lys	Leu	275	280	285	
Thr	Leu	Cys	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Gly	Thr	Val	Ser	290	295	300	
Leu	Ile	Ala	Val	Asp	Thr	Gly	Ser	Leu	Asn	Pro	Ile	Thr	Gly	Lys	Val	305	310	315	320
Thr	Thr	Ala	Leu	Val	Ser	Leu	Lys	Phe	Asp	Ala	Asn	Gly	Val	Leu	Gln	325	330	335	
Ala	Ser	Ser	Thr	Leu	Asp	Lys	Glu	Tyr	Trp	Asn	Phe	Arg	Lys	Gly	Asp	340	345	350	
Val	Thr	Pro	Ala	Asp	Pro	Tyr	Thr	Asn	Ala	Ile	Gly	Phe	Met	Pro	Asn	355	360	365	
Leu	Asn	Ala	Tyr	Pro	Lys	Asn	Thr	Asn	Ala	Ala	Ala	Lys	Ser	His	Ile	370	375	380	
Val	Gly	Lys	Val	Tyr	Leu	His	Gly	Asp	Val	Ser	Lys	Pro	Leu	Asp	Leu	385	390	395	400
Ile	Ile	Thr	Phe	Asn	Glu	Thr	Ser	Asp	Glu	Ser	Cys	Thr	Tyr	Cys	Ile	405	410	415	
Asn	Phe	Gln	Trp	Arg	Trp	Gly	Thr	Asp	Gln	Tyr	Lys	Asp	Glu	Thr	Leu	420	425	430	
Ala	Val	Ser	Ser	Phe	Thr	Phe	Ser	Tyr	Ile	Ala	Lys	Glu				435	440	445	

<210> 80
 <211> 445
 <212> PRT
 <213> Chimpanzee Adenovirus- CV23/Pan5 Fiber

<400> 80

Met	Ser	Lys	Lys	Arg	Val	Arg	Val	Asp	Asp	Asp	Phe	Asp	Pro	Val	Tyr
1				5					10					15	
Pro	Tyr	Asp	Ala	Asp	Asn	Ala	Pro	Thr	Val	Pro	Phe	Ile	Asn	Pro	Pro
		20						25					30		
Phe	Val	Ser	Ser	Asp	Gly	Phe	Gln	Glu	Lys	Pro	Leu	Gly	Val	Leu	Ser
	35						40					45			
Leu	Arg	Leu	Ala	Asp	Pro	Val	Thr	Thr	Lys	Asn	Gly	Glu	Ile	Thr	Leu
	50					55					60				
Lys	Leu	Gly	Asp	Gly	Val	Asp	Leu	Asp	Ser	Ser	Gly	Lys	Leu	Ile	Ser
65					70				75						80
Asn	Thr	Ala	Thr	Lys	Ala	Ala	Ala	Pro	Leu	Ser	Phe	Ser	Asn	Asn	Thr
				85					90					95	
Ile	Ser	Leu	Asn	Met	Asp	Thr	Pro	Phe	Tyr	Asn	Asn	Asn	Gly	Lys	Leu
			100					105					110		
Gly	Met	Lys	Val	Thr	Ala	Pro	Leu	Lys	Ile	Leu	Asp	Thr	Asp	Leu	Leu
	115						120					125			
Lys	Thr	Leu	Val	Val	Ala	Tyr	Gly	Gln	Gly	Leu	Gly	Thr	Asn	Thr	Thr
	130					135					140				
Gly	Ala	Leu	Val	Ala	Gln	Leu	Ala	Ser	Pro	Leu	Ala	Phe	Asp	Ser	Asn
145					150					155					160
Ser	Lys	Ile	Ala	Leu	Asn	Leu	Gly	Asn	Gly	Pro	Leu	Lys	Val	Asp	Ala
				165					170					175	
Asn	Arg	Leu	Asn	Ile	Asn	Cys	Asn	Arg	Gly	Leu	Tyr	Val	Thr	Thr	Thr
		180						185					190		
Lys	Asp	Ala	Leu	Glu	Ala	Asn	Ile	Ser	Trp	Ala	Asn	Ala	Met	Thr	Phe
	195						200					205			
Ile	Gly	Asn	Ala	Met	Gly	Val	Asn	Ile	Asp	Thr	Gln	Lys	Gly	Leu	Gln
	210					215					220				
Phe	Gly	Thr	Thr	Ser	Thr	Val	Ala	Asp	Val	Lys	Asn	Ala	Tyr	Pro	Ile
225					230					235					240
Gln	Ile	Lys	Leu	Gly	Ala	Gly	Leu	Thr	Phe	Asp	Ser	Thr	Gly	Ala	Ile
				245					250					255	
Val	Ala	Trp	Asn	Lys	Asp	Asp	Asp	Lys	Leu	Thr	Leu	Trp	Thr	Thr	Ala
		260						265					270		
Asp	Pro	Ser	Pro	Asn	Cys	His	Ile	Tyr	Ser	Glu	Lys	Asp	Ala	Lys	Leu
	275						280					285			
Thr	Leu	Cys	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Gly	Thr	Val	Ser
	290					295					300				
Leu	Ile	Ala	Val	Asp	Thr	Gly	Ser	Leu	Asn	Pro	Ile	Thr	Gly	Thr	Val
305					310					315					320
Thr	Thr	Ala	Leu	Val	Ser	Leu	Lys	Phe	Asp	Ala	Asn	Gly	Val	Leu	Gln
				325					330					335	
Ser	Ser	Ser	Thr	Leu	Asp	Ser	Asp	Tyr	Trp	Asn	Phe	Arg	Gln	Gly	Asp
			340					345					350		
Val	Thr	Pro	Ala	Glu	Ala	Tyr	Thr	Asn	Ala	Ile	Gly	Phe	Met	Pro	Asn
		355					360					365			
Leu	Lys	Ala	Tyr	Pro	Lys	Asn	Thr	Ser	Gly	Ala	Ala	Lys	Ser	His	Ile
	370					375					380				
Val	Gly	Lys	Val	Tyr	Leu	His	Gly	Asp	Thr	Gly	Lys	Pro	Leu	Asp	Leu
385					390					395					400
Ile	Ile	Thr	Phe	Asn	Glu	Thr	Ser	Asp	Glu	Ser	Cys	Thr	Tyr	Cys	Ile
				405					410					415	
Asn	Phe	Gln	Trp	Gln	Trp	Gly	Ala	Asp	Gln	Tyr	Lys	Asn	Glu	Thr	Leu
			420					425					430		

Ala Val Ser Ser Phe Thr Phe Ser Tyr Ile Ala Lys Glu
 435 440 445

<210> 81

<211> 443

<212> PRT

<213> Chimpanzee Adenovirus- CV32/Pan6 Fiber

<400> 81

Met	Ser	Lys	Lys	Arg	Val	Arg	Val	Asp	Asp	Asp	Phe	Asp	Pro	Val	Tyr
1				5				10	10					15	
Pro	Tyr	Asp	Ala	Asn	Ala	Pro	Thr	Val	Pro	Phe	Ile	Asn	Pro	Pro	
			20					25				30			
Phe	Val	Ser	Ser	Asp	Gly	Phe	Gln	Glu	Lys	Pro	Leu	Gly	Val	Leu	Ser
		35					40					45			
Leu	Arg	Leu	Ala	Asp	Pro	Val	Thr	Thr	Lys	Asn	Gly	Glu	Ile	Thr	Leu
	50					55					60				
Lys	Leu	Gly	Glu	Gly	Val	Asp	Leu	Asp	Ser	Ser	Gly	Lys	Leu	Ile	Ser
65					70				75						80
Asn	Thr	Ala	Thr	Lys	Ala	Ala	Ala	Pro	Leu	Ser	Ile	Ser	Asn	Asn	Thr
				85					90					95	
Ile	Ser	Leu	Lys	Thr	Ala	Ala	Pro	Phe	Tyr	Asn	Asn	Asn	Gly	Thr	Leu
			100					105					110		
Ser	Leu	Asn	Val	Ser	Thr	Pro	Leu	Ala	Val	Phe	Pro	Thr	Phe	Asn	Thr
		115					120					125			
Leu	Gly	Ile	Ser	Leu	Gly	Asn	Gly	Leu	Gln	Thr	Ser	Asn	Lys	Leu	Leu
	130					135						140			
Thr	Val	Gln	Leu	Thr	His	Pro	Leu	Thr	Phe	Ser	Ser	Asn	Ser	Ile	Thr
145					150					155					160
Val	Lys	Thr	Asp	Lys	Gly	Leu	Tyr	Ile	Asn	Ser	Ser	Gly	Asn	Arg	Gly
				165					170					175	
Leu	Glu	Ala	Asn	Ile	Ser	Leu	Lys	Arg	Gly	Leu	Val	Phe	Asp	Gly	Asn
			180					185					190		
Ala	Ile	Ala	Thr	Tyr	Ile	Gly	Asn	Gly	Leu	Asp	Tyr	Gly	Ser	Tyr	Asp
		195					200					205			
Ser	Asp	Gly	Lys	Thr	Arg	Pro	Val	Ile	Thr	Lys	Ile	Gly	Ala	Gly	Leu
	210				215						220				
Asn	Phe	Asp	Ala	Asn	Lys	Ala	Ile	Ala	Val	Lys	Leu	Gly	Thr	Gly	Leu
225				230						235					240
Ser	Phe	Asp	Ser	Ala	Gly	Ala	Leu	Thr	Ala	Gly	Asn	Lys	Gln	Asp	Asp
				245					250					255	
Lys	Leu	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Gln	Leu
			260					265					270		
Leu	Ser	Asp	Arg	Asp	Ala	Lys	Phe	Thr	Leu	Cys	Leu	Thr	Lys	Cys	Gly
		275					280					285			
Ser	Gln	Ile	Leu	Gly	Thr	Val	Ala	Val	Ala	Ala	Val	Thr	Val	Gly	Ser
	290					295					300				
Ala	Leu	Asn	Pro	Ile	Asn	Asp	Thr	Val	Lys	Ser	Ala	Ile	Val	Phe	Leu
305				310						315					320
Arg	Phe	Asp	Ser	Asp	Gly	Val	Leu	Met	Ser	Asn	Ser	Ser	Met	Val	Gly
				325					330					335	
Asp	Tyr	Trp	Asn	Phe	Arg	Glu	Gly	Gln	Thr	Thr	Gln	Ser	Val	Ala	Tyr
			340					345					350		
Thr	Asn	Ala	Val	Gly	Phe	Met	Pro	Asn	Ile	Gly	Ala	Tyr	Pro	Lys	Thr
		355					360					365			
Gln	Ser	Lys	Thr	Pro	Lys	Asn	Ser	Ile	Val	Ser	Gln	Val	Tyr	Leu	Thr
	370					375					380				
Gly	Glu	Thr	Thr	Met	Pro	Met	Thr	Leu	Thr	Ile	Thr	Phe	Asn	Gly	Thr
385					390					395					400
Asp	Glu	Lys	Asp	Thr	Thr	Pro	Val	Ser	Thr	Tyr	Ser	Met	Thr	Phe	Thr
				405					410					415	

Trp Gln Trp Thr Gly Asp Tyr Lys Asp Lys Asn Ile Thr Phe Ala Thr
 420 425 430
 Asn Ser Phe Ser Phe Ser Tyr Ile Ala Gln Glu
 435 440

<210> 82

<211> 443

<212> PRT

<213> Chimpanzee Adenovirus- CV33/Pan7 Fiber

<400> 82

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1 5 10 15
 Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
 20 25 30
 Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
 35 40 45
 Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
 50 55 60
 Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
 65 70 75 80
 Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
 85 90 95
 Ile Ser Leu Asn Met Asp Thr Pro Leu Tyr Thr Lys Asp Gly Lys Leu
 100 105 110
 Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Lys Ser Thr Ile Leu
 115 120 125
 Asn Thr Leu Ala Val Ala Tyr Gly Ser Gly Leu Gly Leu Ser Gly Gly
 130 135 140
 Thr Ala Leu Ala Val Gln Leu Ala Ser Pro Leu Thr Phe Asp Glu Lys
 145 150 155 160
 Gly Asn Ile Lys Ile Asn Leu Ala Ser Gly Pro Leu Thr Val Asp Ala
 165 170 175
 Ser Arg Leu Ser Ile Asn Cys Lys Arg Gly Val Thr Val Thr Thr Ser
 180 185 190
 Gly Asp Ala Ile Glu Ser Asn Ile Ser Trp Pro Lys Gly Ile Arg Phe
 195 200 205
 Glu Gly Asn Gly Ile Ala Ala Asn Ile Gly Arg Gly Leu Glu Phe Gly
 210 215 220
 Thr Thr Ser Thr Glu Thr Asp Val Thr Asp Ala Tyr Pro Ile Gln Val
 225 230 235 240
 Lys Leu Gly Thr Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile Val Ala
 245 250 255
 Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala Asp Pro
 260 265 270
 Ser Pro Asn Cys Lys Ile Tyr Ser Glu Lys Asp Ala Lys Leu Thr Leu
 275 280 285
 Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Thr Val Leu
 290 295 300
 Ala Val Asn Asn Gly Ser Leu Asn Pro Ile Thr Asn Thr Val Ser Thr
 305 310 315 320
 Ala Leu Val Ser Leu Lys Phe Asp Ala Ser Gly Val Leu Leu Ser Ser
 325 330 335
 Ser Thr Leu Asp Lys Glu Tyr Trp Asn Phe Arg Lys Gly Asp Val Thr
 340 345 350
 Pro Ala Glu Pro Tyr Thr Asn Ala Ile Gly Phe Met Pro Asn Ile Lys
 355 360 365
 Ala Tyr Pro Lys Asn Thr Ser Ala Ala Ser Lys Ser His Ile Val Ser
 370 375 380
 Gln Val Tyr Leu Asn Gly Asp Glu Ala Lys Pro Leu Met Leu Ile Ile
 385 390 395 400

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Thr Phe Asn Glu Thr Glu Asp Ala Thr Cys Thr Tyr Ser Ile Thr Phe
      405      410      415
Gln Trp Lys Trp Asp Ser Thr Lys Tyr Thr Gly Glu Thr Leu Ala Thr
      420      425      430
Ser Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
      435      440

```

<210> 83

<211> 543

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 3 Fiber

<400> 83

```

Met Lys Arg Thr Lys Thr Ser Asp Glu Ser Phe Asn Pro Val Tyr Pro
  1      5      10      15
Tyr Asp Thr Glu Ser Gly Pro Pro Ser Val Pro Phe Leu Thr Pro Pro
      20      25      30
Phe Val Ser Pro Asp Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
      35      40      45
Leu Asn Leu Ala Glu Pro Leu Val Thr Ser His Gly Met Leu Ala Leu
      50      55      60
Lys Met Gly Ser Gly Leu Ser Leu Asp Asp Ala Gly Asn Leu Thr Ser
      65      70      75      80
Gln Asp Ile Thr Thr Ala Ser Pro Pro Leu Lys Lys Thr Lys Thr Asn
      85      90      95
Leu Ser Leu Glu Thr Ser Ser Pro Leu Thr Val Ser Thr Ser Gly Ala
      100      105      110
Leu Thr Val Ala Ala Ala Ala Pro Leu Ala Val Ala Gly Thr Ser Leu
      115      120      125
Thr Met Gln Ser Glu Ala Pro Leu Thr Val Gln Asp Ala Lys Leu Thr
      130      135      140
Leu Ala Thr Lys Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu
      145      150      155      160
Gln Thr Ser Ala Pro Leu Thr Ala Ala Asp Ser Ser Thr Leu Thr Val
      165      170      175
Ser Ala Thr Pro Pro Ile Asn Val Ser Ser Gly Ser Leu Gly Leu Asp
      180      185      190
Met Glu Asp Pro Met Tyr Thr His Asp Gly Lys Leu Gly Ile Arg Ile
      195      200      205
Gly Gly Pro Leu Arg Val Val Asp Ser Leu His Thr Leu Thr Val Val
      210      215      220
Thr Gly Asn Gly Leu Thr Val Asp Asn Asn Ala Leu Gln Thr Arg Val
      225      230      235      240
Thr Gly Ala Leu Gly Tyr Asp Thr Ser Gly Asn Leu Gln Leu Arg Ala
      245      250      255
Ala Gly Gly Met Arg Ile Asp Ala Asn Gly Gln Leu Ile Leu Asn Val
      260      265      270
Ala Tyr Pro Phe Asp Ala Gln Asn Asn Leu Ser Leu Arg Leu Gly Gln
      275      280      285
Gly Pro Leu Tyr Ile Asn Thr Asp His Asn Leu Asp Leu Asn Cys Asn
      290      295      300
Arg Gly Leu Thr Thr Thr Thr Thr Asn Asn Thr Lys Lys Leu Glu Thr
      305      310      315      320
Lys Ile Ser Ser Gly Leu Asp Tyr Asp Thr Asn Gly Ala Val Ile Ile
      325      330      335
Lys Leu Gly Thr Gly Leu Ser Phe Asp Asn Thr Gly Ala Leu Thr Val
      340      345      350
Gly Asn Thr Gly Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro
      355      360      365
Ser Pro Asn Cys Arg Ile His Ser Asp Lys Asp Cys Lys Phe Thr Leu
      370      375      380

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Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Ser Val Ala Ala Leu
385          390          395          400
Ala Val Ser Gly Asn Leu Ala Ser Ile Thr Gly Thr Val Ala Ser Val
          405          410          415
Thr Ile Phe Leu Arg Phe Asp Gln Asn Gly Val Leu Met Glu Asn Ser
          420          425          430
Ser Leu Asp Arg Gln Tyr Trp Asn Phe Arg Asn Gly Asn Ser Thr Asn
          435          440          445
Ala Ala Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Ala Ala
          450          455          460
Tyr Pro Lys Thr Gln Ser Gln Thr Ala Lys Asn Ile Val Ser Gln
465          470          475          480
Val Tyr Leu Asn Gly Asp Lys Ser Lys Pro Met Thr Leu Thr Ile Thr
          485          490          495
Leu Asn Gly Thr Asn Glu Ser Ser Glu Thr Ser Gln Val Ser His Tyr
          500          505          510
Ser Met Ser Phe Thr Trp Ala Trp Glu Ser Gly Gln Tyr Ala Thr Glu
          515          520          525
Thr Phe Ala Thr Asn Ser Phe Thr Phe Ser Tyr Ile Ala Glu Gln
530          535          540

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<210> 84

<211> 445

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 6 Fiber

<400> 84

```

Met Ser Lys Lys Arg Ala Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
1          5          10          15
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
          20          25          30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
          35          40          45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Ala Val Thr Leu
          50          55          60
Lys Leu Gly Glu Gly Val Asp Leu Asp Asp Ser Gly Lys Leu Ile Ser
65          70          75          80
Lys Asn Ala Thr Lys Ala Thr Ala Pro Leu Ser Ile Ser Asn Asn Thr
          85          90          95
Ile Ser Leu Asn Met Asp Thr Pro Leu Tyr Asn Asn Asn Gly Lys Leu
          100          105          110
Gly Met Lys Val Thr Ala Pro Leu Lys Ile Leu Asp Thr Asp Leu Leu
          115          120          125
Lys Thr Leu Val Val Ala Tyr Gly Gln Gly Leu Gly Thr Asn Thr Asn
          130          135          140
Gly Ala Leu Val Ala Gln Leu Ala Tyr Pro Leu Val Phe Asn Thr Ala
145          150          155          160
Ser Lys Ile Ala Leu Asn Leu Gly Asn Gly Pro Leu Lys Val Asp Ala
          165          170          175
Asn Arg Leu Asn Ile Asn Cys Lys Arg Gly Ile Tyr Val Thr Thr Thr
          180          185          190
Lys Asp Ala Leu Glu Ile Asn Ile Ser Trp Ala Asn Ala Met Thr Phe
          195          200          205
Ile Gly Asn Ala Ile Gly Val Asn Ile Asp Thr Lys Lys Gly Leu Gln
210          215          220
Phe Gly Thr Ser Ser Thr Glu Thr Asp Val Lys Asn Ala Phe Pro Leu
225          230          235          240
Gln Val Lys Leu Gly Ala Gly Leu Thr Phe Asp Ser Thr Gly Ala Ile
          245          250          255
Val Ala Trp Asn Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Ala
260          265          270

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Asp Pro Ser Pro Asn Cys His Ile Tyr Ser Ala Lys Asp Ala Lys Leu
    275                                280                285
Thr Leu Cys Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Thr Val Ser
    290                                295                300
Leu Ile Ala Val Asp Thr Gly Ser Leu Asn Pro Ile Thr Gly Lys Val
    305                                310                315                320
Thr Thr Ala Leu Val Ser Leu Lys Phe Asp Ala Asn Gly Val Leu Gln
    325                                330                335
Ala Ser Ser Thr Leu Asp Lys Glu Tyr Trp Asn Phe Arg Lys Gly Asp
    340                                345                350
Val Thr Pro Ala Asp Pro Tyr Thr Asn Ala Ile Gly Phe Met Pro Asn
    355                                360                365
Leu Asn Ala Tyr Pro Lys Asn Thr Asn Ala Ala Ala Lys Ser His Ile
    370                                375                380
Val Gly Lys Val Tyr Leu His Gly Asp Glu Ser Lys Pro Leu Asp Leu
    385                                390                395                400
Ile Ile Thr Phe Asn Glu Thr Ser Asp Glu Ser Cys Thr Tyr Cys Ile
    405                                410                415
Asn Phe Gln Trp Gln Trp Gly Thr Asp Gln Tyr Lys Asp Glu Thr Leu
    420                                425                430
Ala Val Ser Ser Phe Thr Phe Ser Tyr Ile Ala Lys Glu
    435                                440                445

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<210> 85

<211> 322

<212> PRT

<213> Chimpanzee Adenovirus- C1 Fiber

<400> 85

```

Met Ala Lys Arg Thr Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
  1      5      10
Tyr Glu Asp Glu Asn Ser Ser His Pro Phe Ile Asn Pro Gly Phe Ile
    20      25      30
Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Asn
    35      40      45
Cys Val Ala Pro Leu Thr Thr Ala Asn Gly Ala Leu Asp Ile Lys Val
    50      55      60
Gly Gly Gly Leu Lys Val Asn Ser Thr Asp Gly Phe Leu Glu Glu Asn
    65      70      75      80
Ile Asn Ile Thr Ser Pro Leu Thr Lys Ser Asn His Ser Ile Gly Leu
    85      90      95
Glu Trp Ser Asp Gly Leu Gln Thr Asn Glu Ala Lys Leu Cys Val Lys
    100     105     110
Leu Gly Lys Gly Leu Val Phe Asp Ser Ser Ser Ala Ile Ala Met Glu
    115     120     125
Asn Asn Thr Leu Trp Thr Gly Ala Lys Pro Ser Ala Asn Cys Val Ile
    130     135     140
Lys Glu Gly Glu Asp Ser Pro Asp Cys Lys Leu Thr Leu Val Leu Val
    145     150     155     160
Lys Asn Gly Gly Leu Val Asn Gly Tyr Ile Thr Leu Met Gly Asp Ser
    165     170     175
Glu Tyr Thr Asn Thr Leu Phe Lys Asn Lys Gln Val Thr Ile Asp Val
    180     185     190
Asn Leu Ala Phe Asp Asn Thr Gly Gln Ile Ile Thr Tyr Leu Ser Ser
    195     200     205
Leu Lys Ser Asn Leu Asn Phe Lys Asp Asn Gln Asn Met Ala Thr Gly
    210     215     220
Thr Ile Thr Ser Ala Lys Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro
    225     230     235     240
Phe Ile Thr Tyr Ala Thr Gln Ser Leu Asn Glu Asp Tyr Ile Tyr Gly
    245     250     255

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```

Glu Cys Tyr Tyr Lys Ser Thr Asn Gly Thr Leu Phe Pro Leu Lys Val
      260      265      270
Thr Val Thr Leu Asn Arg Arg Met Ser Ala Ser Gly Met Ala Tyr Ala
      275      280      285
Met Asn Phe Ser Trp Ser Leu Asn Ala Glu Glu Ala Pro Glu Thr Thr
      290      295      300
Glu Val Thr Leu Ile Thr Ser Pro Phe Phe Phe Ser Tyr Ile Arg Glu
305      310      315      320
Asp Asp

```

<210> 86

<211> 425

<212> PRT

<213> Chimpanzee Adenovirus- CV68 Fiber

<400> 86

```

Met Ser Lys Lys Arg Val Arg Val Asp Asp Asp Phe Asp Pro Val Tyr
 1      5      10
Pro Tyr Asp Ala Asp Asn Ala Pro Thr Val Pro Phe Ile Asn Pro Pro
      20      25      30
Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
      35      40      45
Leu Arg Leu Ala Asp Pro Val Thr Thr Lys Asn Gly Glu Ile Thr Leu
      50      55      60
Lys Leu Gly Glu Gly Val Asp Leu Asp Ser Ser Gly Lys Leu Ile Ser
65      70      75      80
Asn Thr Ala Thr Lys Ala Ala Ala Pro Leu Ser Phe Ser Asn Asn Thr
      85      90      95
Ile Ser Leu Asn Met Asp His Pro Phe Tyr Thr Lys Asp Gly Lys Leu
      100      105      110
Ser Leu Gln Val Ser Pro Pro Leu Asn Ile Leu Arg Thr Ser Ile Leu
      115      120      125
Asn Thr Leu Ala Leu Gly Phe Gly Ser Gly Leu Gly Leu Arg Gly Ser
      130      135      140
Ala Leu Ala Val Gln Leu Val Ser Pro Leu Thr Phe Asp Thr Asp Gly
145      150      155      160
Asn Ile Lys Leu Thr Leu Asp Arg Gly Leu His Val Thr Thr Gly Asp
      165      170      175
Ala Ile Glu Ser Asn Ile Ser Trp Ala Lys Gly Leu Lys Phe Glu Asp
      180      185      190
Gly Ala Ile Ala Thr Asn Ile Gly Asn Gly Leu Glu Phe Gly Ser Ser
      195      200      205
Ser Thr Glu Thr Gly Val Asp Asp Ala Tyr Pro Ile Gln Val Lys Leu
      210      215      220
Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Ile Met Ala Gly Asn
225      230      235      240
Lys Glu Asp Asp Lys Leu Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro
      245      250      255
Asn Cys Gln Ile Leu Ala Glu Asn Asp Ala Lys Leu Thr Leu Cys Leu
      260      265      270
Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Val Ser Val Leu Val Val
      275      280      285
Gly Ser Gly Asn Leu Asn Pro Ile Thr Gly Thr Val Ser Ser Ala Gln
      290      295      300
Val Phe Leu Arg Phe Asp Ala Asn Gly Val Leu Leu Thr Glu His Ser
305      310      315      320
Thr Leu Lys Lys Tyr Trp Gly Tyr Arg Gln Gly Asp Ser Ile Asp Gly
      325      330      335
Thr Pro Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Leu Lys Ala Tyr
      340      345      350

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Pro Lys Ser Gln Ser Ser Thr Thr Lys Asn Asn Ile Val Gly Gln Val
    355                                360          365
Tyr Met Asn Gly Asp Val Ser Lys Pro Met Leu Leu Thr Ile Thr Leu
    370                                375          380
Asn Gly Thr Asp Asp Ser Asn Ser Thr Tyr Ser Met Ser Phe Ser Tyr
385                                390          395          400
Thr Trp Thr Asn Gly Ser Tyr Val Gly Ala Thr Phe Gly Ala Asn Ser
    405                                410          415
Tyr Thr Phe Ser Tyr Ile Ala Gln Glu
    420                                425

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<210> 87

<211> 954

<212> PRT

<213> Chimpanzee Adenovirus- ChAd20 Hexon

<400> 87

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Met Ala Thr Pro Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ser
 1                                5          10          15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
    20                                25          30
Arg Ala Thr Glu Ser Tyr Phe Ser Leu Ser Asn Lys Phe Arg Asn Pro
    35                                40          45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
    50                                55          60
Thr Leu Arg Phe Ile Pro Val Asp Arg Glu Asp Thr Ala Tyr Ser Tyr
65                                70          75          80
Lys Ala Arg Phe Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
    85                                90          95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Thr
    100                               105          110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
    115                               120          125
Ala Pro Asn Pro Cys Glu Trp Asp Glu Ala Ala Thr Ala Leu Asp Ile
    130                               135          140
Asp Leu Asn Ala Glu Asp Asp Glu Glu Ser Asp Glu Ala Gln Gly Glu
145                               150          155          160
Ala Asp Gln Gln Lys Thr His Val Phe Gly Gln Ala Pro Tyr Ser Gly
    165                               170          175
Gln Asn Ile Thr Lys Glu Gly Ile Gln Ile Gly Ile Asp Ala Ala Ser
    180                               185          190
Gln Ala Gln Thr Pro Val Tyr Ala Asp Lys Thr Phe Gln Pro Glu Pro
    195                               200          205
Gln Val Gly Glu Ser Gln Trp Asn Glu Thr Glu Ile Ser Tyr Gly Ala
    210                               215          220
Gly Arg Val Leu Lys Lys Thr Thr Leu Met Lys Pro Cys Tyr Gly Ser
225                               230          235          240
Tyr Ala Arg Pro Thr Asn Glu Asn Gly Gly Gln Gly Ile Leu Leu Glu
    245                               250          255
Gln Asp Gly Lys Lys Glu Ser Gln Val Glu Met Gln Phe Phe Ser Thr
    260                               265          270
Thr Gln Ala Ala Ala Gly Asn Ser Asp Asn Pro Thr Pro Lys Val Val
    275                               280          285
Leu Tyr Ser Glu Asp Val Asn Leu Glu Thr Pro Asp Thr His Ile Ser
    290                               295          300
Tyr Met Pro Thr Asn Asn Glu Thr Asn Ser Arg Glu Leu Leu Gly Gln
305                               310          315          320
Gln Ala Met Pro Asn Arg Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe
    325                               330          335
Ile Gly Leu Met Tyr Tyr Asn Ser Thr Gly Asn Met Gly Val Leu Ala
    340                               345          350

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Gly 355	Gln 360	Ala 365	Ser 370	Gln 375	Leu 380	Asn 385	Ala 390	Val 395	Val 400	Asp 405	Leu 410	Gln 415	Asp 420	Arg 425	Asn 430
Thr 370	Glu 375	Leu 380	Ser 385	Tyr 390	Gln 395	Leu 400	Leu 405	Leu 410	Asp 415	Ser 420	Met 425	Gly 430	Asp 435	Arg 440	Thr 445
Arg 385	Tyr 390	Phe 395	Ser 400	Met 405	Trp 410	Asn 415	Gln 420	Ala 425	Val 430	Asp 435	Ser 440	Tyr 445	Asp 450	Pro 455	Asp 460
Val 390	Arg 395	Ile 400	Ile 405	Glu 410	Asn 415	His 420	Gly 425	Thr 430	Glu 435	Asp 440	Glu 445	Leu 450	Pro 455	Asn 460	Tyr 465
Cys 400	Phe 405	Pro 410	Leu 415	Gly 420	Gly 425	Val 430	Ile 435	Asn 440	Thr 445	Glu 450	Thr 455	Phe 460	Thr 465	Lys 470	Val 475
Lys 410	Pro 415	Lys 420	Ala 425	Ala 430	Gln 435	Asp 440	Ala 445	Gln 450	Trp 455	Glu 460	Lys 465	Asp 470	Ser 475	Glu 480	Phe 485
Ser 420	Asp 425	Lys 430	Asn 435	Glu 440	Ile 445	Arg 450	Val 455	Gly 460	Asn 465	Asn 470	Phe 475	Ala 480	Met 485	Glu 490	Ile 495
Asn 430	Leu 435	Asn 440	Ala 445	Asn 450	Leu 455	Trp 460	Arg 465	Asn 470	Phe 475	Leu 480	Asn 485	Tyr 490	Ser 495	Val 500	Ala 505
Leu 440	Tyr 445	Leu 450	Pro 455	Asp 460	Lys 465	Leu 470	Lys 475	Tyr 480	Thr 485	Pro 490	Ser 495	Asn 500	Val 505	Gln 510	Ile 515
Ser 450	Asn 455	Asn 460	Pro 465	Asn 470	Ser 475	Tyr 480	Asp 485	Tyr 490	Met 495	Asn 500	Lys 505	Arg 510	Val 515	Val 520	Ala 525
Pro 460	Gly 465	Leu 470	Val 475	Asp 480	Cys 485	Tyr 490	Ile 495	Asn 500	Leu 505	Gly 510	Ala 515	Arg 520	Trp 525	Ser 530	Leu 535
Asp 470	Tyr 475	Met 480	Asp 485	Asn 490	Val 495	Asn 500	Pro 505	Phe 510	Asn 515	His 520	His 525	Arg 530	Asn 535	Ala 540	Gly 545
Leu 480	Arg 485	Tyr 490	Arg 495	Ser 500	Met 505	Leu 510	Leu 515	Gly 520	Asn 525	Gly 530	Arg 535	Tyr 540	Val 545	Pro 550	Phe 555
His 490	Ile 495	Gln 500	Val 505	Pro 510	Gln 515	Lys 520	Phe 525	Phe 530	Ala 535	Ile 540	Lys 545	Asn 550	Leu 555	Leu 560	Leu 565
Leu 500	Pro 505	Gly 510	Ser 515	Tyr 520	Thr 525	Tyr 530	Glu 535	Trp 540	Asn 545	Phe 550	Arg 555	Lys 560	Asp 565	Val 570	Asn 575
Met 510	Val 515	Leu 520	Gln 525	Ser 530	Ser 535	Leu 540	Gly 545	Asn 550	Asp 555	Leu 560	Arg 565	Val 570	Asp 575	Gly 580	Ala 585
Ser 520	Ile 525	Lys 530	Phe 535	Glu 540	Ser 545	Ile 550	Cys 555	Leu 560	Tyr 565	Ala 570	Thr 575	Phe 580	Phe 585	Pro 590	Met 595
Ala 530	His 535	Asn 540	Thr 545	Ala 550	Ser 555	Thr 560	Leu 565	Glu 570	Ala 575	Met 580	Leu 585	Arg 590	Asn 595	Asp 600	Thr 605
Asn 540	Asp 545	Gln 550	Ser 555	Phe 560	Asn 565	Asp 570	Tyr 575	Leu 580	Ser 585	Ala 590	Ala 595	Asn 600	Met 605	Leu 610	Tyr 615
Pro 550	Ile 555	Pro 560	Ala 565	Asn 570	Ala 575	Thr 580	Asn 585	Val 590	Pro 595	Ile 600	Ser 605	Ile 610	Pro 615	Ser 620	Arg 625
Asn 560	Trp 565	Ala 570	Ala 575	Phe 580	Arg 585	Gly 590	Trp 595	Ala 600	Phe 605	Thr 610	Arg 615	Leu 620	Lys 625	Thr 630	Lys 635
Glu 570	Thr 575	Pro 580	Ser 585	Leu 590	Gly 595	Ser 600	Gly 605	Phe 610	Asp 615	Pro 620	Tyr 625	Tyr 630	Thr 635	Tyr 640	Ser 645
Gly 580	Ser 585	Ile 590	Pro 595	Tyr 600	Leu 605	Asp 610	Gly 615	Thr 620	Phe 625	Tyr 630	Leu 635	Asn 640	His 645	Thr 650	Phe 655
Lys 590	Lys 595	Val 600	Ser 605	Val 610	Thr 615	Phe 620	Asp 625	Ser 630	Ser 635	Val 640	Ser 645	Trp 650	Pro 655	Gly 660	Asn 665
Asp 600	Arg 605														

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Tyr Leu Ala Pro Thr Met Arg Glu Gly Gln Ala Tyr Pro Ala Asn Phe
      835      840      845
Pro Tyr Pro Leu Ile Gly Lys Thr Ala Val Asp Ser Ile Thr Gln Lys
      850      855      860
Lys Phe Leu Cys Asp Arg Thr Leu Trp Arg Ile Pro Phe Ser Ser Asn
865      870      875      880
Phe Met Ser Met Gly Ala Leu Ser Asp Leu Gly Gln Asn Leu Leu Tyr
      885      890      895
Ala Asn Ser Ala His Ala Leu Asp Met Thr Phe Glu Val Asp Pro Met
      900      905      910
Asp Glu Pro Thr Leu Leu Tyr Val Leu Phe Glu Val Phe Asp Val Val
      915      920      925
Arg Val His Gln Pro His Arg Gly Val Ile Glu Thr Val Tyr Leu Arg
      930      935      940
Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
945      950

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<210> 88

<211> 940

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 4 Hexon

<400> 88

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
 1      5      10      15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
      20      25      30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
      35      40      45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
      50      55      60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65      70      75      80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
      85      90      95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
      100      105      110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
      115      120      125
Ala Pro Asn Ser Ser Gln Trp Glu Gln Lys Lys Thr Gly Asn Asn Ala
      130      135      140
Asn Gly Asp Thr Glu Asn Val Thr Tyr Gly Val Ala Ala Met Gly Gly
145      150      155      160
Ile Asp Ile Asp Lys Asn Gly Leu Gln Ile Gly Thr Asp Asp Thr Lys
      165      170      175
Asp Asp Asp Asn Glu Ile Tyr Ala Asp Lys Thr Tyr Gln Pro Glu Pro
      180      185      190
Gln Ile Gly Glu Glu Asn Trp Gln Glu Thr Tyr Ser Tyr Tyr Gly Gly
      195      200      205
Arg Ala Leu Lys Lys Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe
      210      215      220
Ala Arg Pro Thr Asn Val Lys Gly Gly Gln Ala Lys Ile Lys Thr Asp
225      230      235      240
Gly Asp Val Lys Ser Phe Asp Ile Asp Leu Ala Phe Phe Asp Ile Pro
      245      250      255
Asn Ser Gly Ala Gly Asn Gly Thr Asn Val Asn Asp Asp Pro Asp Met
      260      265      270
Val Met Tyr Thr Glu Asn Val Asn Leu Glu Thr Pro Asp Thr His Ile
      275      280      285
Val Tyr Lys Pro Gly Thr Ser Asp Asp Ser Ser Lys Val Asn Leu Cys
290      295      300

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Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn
305					310					315					320
Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu
				325					330					335	
Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg
			340					345					350		
Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg
		355					360					365			
Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro
	370					375					380				
Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn
385					390					395					400
Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Ala	Gly	Thr	Asn	Ser	Val	Tyr	Gln	Gly
				405					410					415	
Val	Lys	Pro	Lys	Thr	Asp	Asn	Gly	Asn	Asp	Gln	Trp	Glu	Thr	Asp	Ser
			420					425					430		
Thr	Val	Ser	Ser	His	Asn	Gln	Ile	Cys	Lys	Gly	Asn	Ile	Tyr	Ala	Met
		435					440					445			
Glu	Ile	Asn	Leu	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	Ser	Asn
	450					455					460				
Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile
465					470					475					480
Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val
				485					490					495	
Val	Pro	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp
			500					505					510		
Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn
		515					520					525			
Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val
	530					535					540				
Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu
545					550					555					560
Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp
				565					570					575	
Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp
			580					585					590		
Gly	Ala	Ser	Ile	Ser	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe
		595					600					605			
Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn
	610					615					620				
Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met
625					630					635					640
Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro
				645					650					655	
Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys
			660					665					670		
Thr	Arg	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val
		675					680					685			
Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His
	690					695					700				
Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro
705					710					715					720
Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr
				725					730					735	
Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp
			740					745					750		
Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly
		755					760					765			
Phe	Tyr	Val	Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg
	770					775					780				

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Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Glu Val Asn Tyr Lys
785                               790       795
Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser Gly Phe
                               805       810       815
Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr Pro Ala
                               820       825       830
Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val Thr Ser Val Thr
                               835       840       845
Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro Phe Ser
850                               855       860
Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met
865                               870       875
Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp
                               885       890       895
Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp
                               900       905       910
Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr
                               915       920       925
Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
930                               935       940

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<210> 89

<211> 940

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 5 Hexon

<400> 89

```

Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1                               5       10       15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20                               25       30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
35                               40       45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50                               55       60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65                               70       75       80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
85                               90       95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
100                              105       110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
115                              120       125
Ala Pro Asn Ser Ser Gln Trp Glu Gln Lys Lys Thr Gly Asn Asn Ala
130                              135       140
Asn Gly Asp Thr Glu Asn Val Thr Tyr Gly Val Ala Ala Met Gly Gly
145                              150       155       160
Ile Asp Ile Asp Lys Asn Gly Leu Gln Ile Gly Thr Asp Asp Thr Lys
165                              170
Asp Asp Asp Asn Glu Ile Tyr Ala Asp Lys Thr Tyr Gln Pro Glu Pro
180                              185       190
Gln Ile Gly Glu Glu Asn Trp Gln Glu Thr Tyr Ser Tyr Tyr Gly Gly
195                              200       205
Arg Ala Leu Lys Lys Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe
210                              215       220
Ala Arg Pro Thr Asn Val Lys Gly Gly Gln Ala Lys Ile Lys Thr Asp
225                              230       235       240
Gly Asp Val Lys Ser Phe Asp Ile Asp Leu Ala Phe Phe Asp Ile Pro
245                              250       255
Asn Ser Gly Ala Gly Asn Gly Thr Asn Val Asn Asp Asp Pro Asp Met
260                              265       270

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Val	Met	Tyr	Thr	Glu	Asn	Val	Asn	Leu	Glu	Thr	Pro	Asp	Thr	His	Ile	275	280	285
Val	Tyr	Lys	Pro	Gly	Thr	Ser	Asp	Asp	Ser	Ser	Lys	Val	Asn	Leu	Cys	290	295	300
Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	305	310	315
Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	325	330	335
Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	340	345	350
Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	355	360	365
Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	370	375	380
Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	385	390	395
Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Ala	Gly	Thr	Asn	Ser	Val	Tyr	Gln	Gly	405	410	415
Val	Lys	Pro	Lys	Thr	Asp	Asn	Gly	Asn	Asp	Gln	Trp	Glu	Thr	Asp	Ser	420	425	430
Thr	Val	Ser	Ser	His	Asn	Gln	Ile	Cys	Lys	Gly	Asn	Ile	Tyr	Ala	Met	435	440	445
Glu	Ile	Asn	Leu	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	Ser	Asn	450	455	460
Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile	465	470	475
Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	485	490	495
Val	Pro	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	500	505	510
Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	515	520	525
Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	530	535	540
Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu	545	550	555
Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp	565	570	575
Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp	580	585	590
Gly	Ala	Ser	Ile	Ser	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe	595	600	605
Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn	610	615	620
Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met	625	630	635
Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro	645	650	655
Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys	660	665	670
Thr	Arg	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	675	680	685
Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	690	695	700
Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	705	710	715
Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	725	730	735
Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	740	745	750

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Trp Phe Leu Val Gln Met Leu Ala His Tyr Asn Ile Gly Tyr Gln Gly
    755          760          765
Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe Phe Arg
    770          775          780
Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Glu Val Asn Tyr Lys
    785          790          795          800
Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser Gly Phe
    805          810          815
Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr Pro Ala
    820          825          830
Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val Ala Ser Val Thr
    835          840          845
Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro Phe Ser
    850          855          860
Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met
    865          870          875          880
Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp
    885          890          895
Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp
    900          905          910
Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr
    915          920          925
Leu Arg Thr Pro Phe Ser Ala Gly Lys Ala Thr Thr
    930          935          940

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<210> 90

<211> 940

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 7 Hexon

<400> 90

```

Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
  1          5          10          15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
    20          25          30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
    35          40          45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
    50          55          60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
    65          70          75          80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
    85          90          95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
    100          105          110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
    115          120          125
Ala Pro Asn Ser Ser Gln Trp Glu Gln Lys Lys Thr Gly Lys Asn Ala
    130          135          140
Asn Gly Asp Thr Glu Asn Val Thr Tyr Gly Val Ala Ala Met Gly Gly
    145          150          155          160
Ile Asp Ile Asp Lys Asn Gly Leu Gln Ile Gly Thr Asp Asp Thr Lys
    165          170          175
Asp Gly Asp Asn Glu Ile Tyr Ala Asp Lys Thr Tyr Gln Pro Glu Pro
    180          185          190
Gln Ile Gly Glu Glu Asn Trp Gln Glu Thr Tyr Ser Tyr Tyr Gly Gly
    195          200          205
Arg Ala Leu Lys Lys Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe
    210          215          220
Ala Arg Pro Thr Asn Val Lys Gly Gly Gln Ala Lys Ile Lys Thr Asp
    225          230          235          240

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Gly	Asp	Val	Lys	Ser	Phe	Asp	Ile	Asp	Leu	Ala	Phe	Phe	Asp	Ile	Pro
				245					250					255	
Asn	Ser	Gly	Ala	Gly	Asn	Gly	Thr	Asn	Val	Asn	Asp	Asp	Pro	Asp	Met
			260					265					270		
Val	Met	Tyr	Thr	Glu	Asn	Val	Asn	Leu	Glu	Thr	Pro	Asp	Thr	His	Ile
		275					280					285			
Val	Tyr	Lys	Pro	Gly	Thr	Ser	Asp	Asp	Ser	Ser	Glu	Val	Asn	Leu	Cys
	290					295					300				
Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn
305					310					315					320
Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu
				325					330					335	
Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg
			340					345					350		
Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg
		355					360					365			
Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro
	370				375						380				
Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn
385					390					395					400
Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Ala	Gly	Thr	Asn	Ser	Val	Tyr	Gln	Gly
				405				410						415	
Val	Lys	Pro	Lys	Thr	Asp	Asn	Gly	Asn	Asp	Gln	Trp	Glu	Thr	Asp	Ser
			420					425					430		
Thr	Val	Ser	Ser	His	Asn	Gln	Ile	Cys	Lys	Gly	Asn	Ile	Tyr	Ala	Met
		435					440					445			
Glu	Ile	Asn	Leu	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	Ser	Asn
	450					455					460				
Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile
465					470					475					480
Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val
				485				490						495	
Val	Pro	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp
			500					505					510		
Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn
		515					520					525			
Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val
	530					535					540				
Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu
545					550					555					560
Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp
				565				570						575	
Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp
			580					585					590		
Gly	Ala	Ser	Ile	Ser	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe
		595					600					605			
Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn
	610					615					620				
Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met
625					630					635					640
Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro
				645					650					655	
Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys
			660					665					670		
Thr	Lys	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val
		675					680					685			
Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His
	690					695					700				
Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro
705					710					715					720

Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr
				725					730					735	
Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp
			740					745					750		
Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly
		755					760					765			
Phe	Tyr	Val	Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg
	770					775					780				
Asn	Phe	Gln	Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Glu	Val	Asn	Tyr	Lys
785					790					795					800
Asp	Tyr	Gln	Ala	Val	Thr	Leu	Ala	Tyr	Gln	His	Asn	Asn	Ser	Gly	Phe
			805						810					815	
Val	Gly	Tyr	Leu	Ala	Pro	Thr	Met	Arg	Gln	Gly	Gln	Pro	Tyr	Pro	Ala
			820					825					830		
Asn	Tyr	Pro	Tyr	Pro	Leu	Ile	Gly	Lys	Ser	Ala	Val	Thr	Ser	Val	Thr
		835					840					845			
Gln	Lys	Lys	Phe	Leu	Cys	Asp	Arg	Val	Met	Trp	Arg	Ile	Pro	Phe	Ser
	850					855					860				
Ser	Asn	Phe	Met	Ser	Met	Gly	Ala	Leu	Thr	Asp	Leu	Gly	Gln	Asn	Met
865					870					875					880
Leu	Tyr	Ala	Asn	Ser	Ala	His	Ala	Leu	Asp	Met	Asn	Phe	Glu	Val	Asp
				885					890					895	
Pro	Met	Asp	Glu	Ser	Thr	Leu	Leu	Tyr	Val	Val	Phe	Glu	Val	Phe	Asp
			900					905					910		
Val	Val	Arg	Val	His	Gln	Pro	His	Arg	Gly	Val	Ile	Glu	Ala	Val	Tyr
		915					920					925			
Leu	Arg	Thr	Pro	Phe	Ser	Ala	Gly	Asn	Ala	Thr	Thr				
	930					935					940				

<210> 91

<211> 930

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 9 Hexon

<400> 91

Met	Ala	Thr	Pro	Ser	Met	Leu	Pro	Gln	Trp	Ala	Tyr	Met	His	Ile	Ala
1				5					10					15	
Gly	Gln	Asp	Ala	Ser	Glu	Tyr	Leu	Ser	Pro	Gly	Leu	Val	Gln	Phe	Ala
		20						25					30		
Arg	Ala	Thr	Asp	Thr	Tyr	Phe	Ser	Leu	Gly	Asn	Lys	Phe	Arg	Asn	Pro
		35					40					45			
Thr	Val	Ala	Pro	Thr	His	Asp	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu
	50				55					60					
Thr	Leu	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr
65					70					75					80
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
				85					90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Thr	Cys	Gln	Trp	Thr	Tyr	Thr	Asp	Asn	Gln	Thr	Glu	Lys
	130					135					140				
Thr	Ala	Thr	Tyr	Gly	Asn	Ala	Pro	Val	Glu	Gly	Ile	Asn	Ile	Thr	Lys
145					150					155					160
Asp	Gly	Ile	Gln	Leu	Gly	Thr	Asp	Ser	Asp	Gly	Gln	Ala	Ile	Tyr	Ala
				165					170					175	
Asp	Glu	Thr	Tyr	Gln	Pro	Glu	Pro	Gln	Val	Gly	Asp	Pro	Glu	Trp	His
			180					185					190		
Asp	Thr	Thr	Gly	Thr	Glu	Glu	Lys	Tyr	Gly	Gly	Arg	Ala	Leu	Lys	Pro
		195					200					205			

Ala	Thr	Asp	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Lys	Pro	Thr	Asn
210						215					220				
Val	Lys	Gly	Gly	Gln	Ala	Lys	Ser	Arg	Thr	Lys	Thr	Asp	Gly	Thr	Thr
225					230					235					240
Glu	Pro	Asp	Ile	Asp	Met	Ala	Phe	Phe	Asp	Gly	Arg	Asn	Ala	Thr	Thr
				245					250					255	
Ala	Gly	Leu	Thr	Pro	Glu	Ile	Val	Leu	Tyr	Thr	Glu	Asn	Val	Asp	Leu
			260					265					270		
Glu	Thr	Pro	Asp	Thr	His	Ile	Val	Tyr	Lys	Ala	Gly	Thr	Asp	Asp	Ser
		275					280					285			
Ser	Ser	Ser	Ile	Asn	Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn
		290				295					300				
Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser
305					310					315					320
Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala
				325					330					335	
Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu
			340					345					350		
Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln
		355					360					365			
Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly
		370				375					380				
Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asn	Ala	Val	Gly
385					390					395					400
Arg	Thr	Asn	Ser	Tyr	Gln	Gly	Ile	Lys	Pro	Asn	Gly	Gly	Asp	Pro	Ala
				405					410					415	
Thr	Trp	Ala	Lys	Asp	Glu	Ser	Val	Asn	Asp	Ser	Asn	Glu	Leu	Gly	Lys
			420					425					430		
Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu	Trp	Arg
		435				440						445			
Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys
		450				455					460				
Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro	Ala	Asn	Thr	Asn	Thr	Tyr	Asp
465				470						475					480
Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile
				485					490					495	
Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro
			500					505					510		
Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu
		515					520					525			
Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe
		530				535					540				
Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu
545					550					555					560
Trp	Asn	Phe	Arg	Lys	Asp	Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly
				565					570					575	
Asn	Asp	Leu	Arg	Thr	Asp	Gly	Ala	Ser	Ile	Ala	Phe	Thr	Ser	Ile	Asn
			580					585					590		
Leu	Tyr	Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu
		595					600					605			
Glu	Ala	Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr
		610				615					620				
Leu	Ser	Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn
625					630					635					640
Val	Pro	Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp
				645					650					655	
Ser	Phe	Thr	Arg	Leu	Lys	Thr	Arg	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly
			660					665					670		
Phe	Asp	Pro	Tyr	Phe	Val	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly
		675					680					685			

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Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile Thr Phe Asp
 690                               695       700
Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu
705                               710       715       720
Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln
                               725       730       735
Cys Asn Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu Ala His Tyr
 740                               745       750
Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg
 755                               760       765
Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val
 770                               775       780
Asp Glu Val Asn Tyr Lys Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln
785                               790       795       800
His Asn Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Gln
                               805       810       815
Gly Gln Pro Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser
 820                               825       830
Ala Val Ala Ser Val Thr Gln Lys Lys Phe Leu Cys Asp Arg Val Met
 835                               840       845
Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr
 850                               855       860
Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His Ala Leu Asp
865                               870       875       880
Met Asn Phe Glu Val Asp Pro Met Asp Glu Ser Thr Leu Leu Tyr Val
                               885       890       895
Val Phe Glu Val Phe Asp Val Val Arg Val His Gln Pro His Arg Gly
 900                               905       910
Val Ile Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala
 915                               920       925
Thr Thr
 930

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<210> 92

<211> 930

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 10 Hexon

<400> 92

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
 1                               5       10       15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
 20                               25       30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
 35                               40       45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
 50                               55       60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65                               70       75       80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
 85                               90       95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
100                               105       110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
115                               120       125
Ala Pro Asn Thr Cys Gln Trp Thr Tyr Thr Asp Asn Gln Thr Glu Lys
130                               135       140
Thr Ala Thr Tyr Gly Asn Ala Pro Val Gln Gly Ile Ser Ile Thr Lys
145                               150       155       160
Asp Gly Ile Gln Leu Gly Thr Asp Thr Asp Asp Gln Pro Ile Tyr Ala
165                               170       175

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Asp	Lys	Thr	Tyr	Gln	Pro	Glu	Pro	Gln	Val	Gly	Asp	Ala	Glu	Trp	His	
			180					185					190			
Asp	Ile	Thr	Gly	Thr	Asp	Glu	Lys	Tyr	Gly	Gly	Arg	Ala	Leu	Lys	Pro	
		195					200					205				
Asp	Thr	Lys	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Lys	Pro	Thr	Asn	
	210					215					220					
Lys	Glu	Gly	Gly	Gln	Ala	Asn	Val	Lys	Thr	Glu	Thr	Gly	Gly	Thr	Lys	
225					230					235					240	
Glu	Tyr	Asp	Ile	Asp	Met	Ala	Phe	Phe	Asp	Asn	Arg	Ser	Ala	Ala	Ala	
			245						250					255		
Ala	Gly	Leu	Ala	Pro	Glu	Ile	Val	Leu	Tyr	Thr	Glu	Asn	Val	Asp	Leu	
			260					265					270			
Glu	Thr	Pro	Asp	Thr	His	Ile	Val	Tyr	Lys	Ala	Gly	Thr	Asp	Asp	Ser	
		275					280					285				
Ser	Ser	Ser	Ile	Asn	Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	
	290					295					300					
Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	
305					310					315					320	
Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	
				325					330					335		
Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	
			340					345					350			
Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	
		355					360					365				
Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	
	370					375					380					
Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asn	Ala	Val	Gly	
385					390					395					400	
Arg	Thr	Asp	Thr	Tyr	Gln	Gly	Ile	Lys	Ala	Asn	Gly	Ala	Asp	Gln	Thr	
				405					410					415		
Thr	Trp	Thr	Lys	Asp	Asp	Thr	Val	Asn	Asp	Ala	Asn	Glu	Leu	Gly	Lys	
			420					425					430			
Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu	Trp	Arg	
		435					440					445				
Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	
	450					455					460					
Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	
465					470					475					480	
Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	
				485					490					495		
Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	
			500					505					510			
Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	
		515					520					525				
Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	
	530					535					540					
Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	
545					550					555					560	
Trp	Asn	Phe	Arg	Lys	Asp	Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly	
				565					570					575		
Asn	Asp	Leu	Arg	Thr	Asp	Gly	Ala	Ser	Ile	Ala	Phe	Thr	Ser	Ile	Asn	
			580					585					590			
Leu	Tyr	Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	
		595					600					605				
Glu	Ala	Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	
	610					615					620					
Leu	Ser	Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	
625					630					635					640	
Val	Pro	Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	
				645					650					655		

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Ser Phe Thr Arg Leu Lys Thr Arg Glu Thr Pro Ser Leu Gly Ser Gly
    660                               665                               670
Phe Asp Pro Tyr Phe Val Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly
    675                               680                               685
Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile Thr Phe Asp
    690                               695                               700
Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu
    705                               710                               715                               720
Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln
    725                               730                               735
Cys Asn Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu Ala His Tyr
    740                               745                               750
Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg
    755                               760                               765
Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val
    770                               775                               780
Asp Glu Val Asn Tyr Lys Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln
    785                               790                               795                               800
His Asn Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Gln
    805                               810                               815
Gly Gln Pro Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser
    820                               825                               830
Ala Val Ala Ser Val Thr Gln Lys Lys Phe Leu Cys Asp Arg Val Met
    835                               840                               845
Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr
    850                               855                               860
Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His Ala Leu Asp
    865                               870                               875                               880
Met Asn Phe Glu Val Asp Pro Met Asp Glu Ser Thr Leu Leu Tyr Val
    885                               890                               895
Val Phe Glu Val Phe Asp Val Val Arg Val His Gln Pro His Arg Gly
    900                               905                               910
Val Ile Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala
    915                               920                               925
Thr Thr
    930

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<210> 93

<211> 960

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 11 Hexon

<400> 93

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Met Ala Thr Pro Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ser
  1                               5                               10                               15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
  20                               25                               30
Arg Ala Thr Glu Ser Tyr Phe Ser Leu Ser Asn Lys Phe Arg Asn Pro
  35                               40                               45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
  50                               55                               60
Thr Leu Arg Phe Ile Pro Val Asp Arg Glu Asp Thr Ala Tyr Ser Tyr
  65                               70                               75                               80
Lys Ala Arg Phe Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
  85                               90                               95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Thr
  100                              105                              110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
  115                              120                              125
Ala Pro Asn Ser Cys Glu Trp Glu Gln Glu Glu Thr Gln Ala Val Glu
  130                              135                              140

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Glu	Ala	Ala	Glu	Glu	Glu	Glu	Glu	Asp	Ala	Asp	Gly	Gln	Ala	Glu	Glu
145					150					155					160
Glu	Gln	Ala	Ala	Thr	Lys	Lys	Thr	His	Val	Tyr	Ala	Gln	Ala	Pro	Leu
				165				170						175	
Ser	Gly	Glu	Lys	Ile	Ser	Lys	Asp	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Ala
			180					185					190		
Thr	Ala	Thr	Glu	Gln	Lys	Pro	Ile	Tyr	Ala	Asp	Pro	Thr	Phe	Gln	Pro
			195					200				205			
Glu	Pro	Gln	Ile	Gly	Glu	Ser	Gln	Trp	Asn	Glu	Ala	Asp	Ala	Thr	Val
	210					215					220				
Ala	Gly	Gly	Arg	Val	Leu	Lys	Lys	Thr	Thr	Pro	Met	Lys	Pro	Cys	Tyr
225					230					235					240
Gly	Ser	Tyr	Ala	Arg	Pro	Thr	Asn	Ala	Asn	Gly	Gly	Gln	Gly	Val	Leu
				245					250					255	
Ala	Ala	Asn	Ala	Gln	Gly	Gln	Leu	Glu	Ser	Gln	Val	Glu	Met	Gln	Phe
			260					265					270		
Phe	Ser	Thr	Ser	Glu	Asn	Ala	Arg	Asn	Glu	Ala	Asn	Asn	Ile	Gln	Pro
			275				280					285			
Lys	Leu	Val	Leu	Tyr	Ser	Glu	Asp	Val	His	Met	Glu	Thr	Pro	Asp	Thr
	290					295					300				
His	Leu	Ser	Tyr	Lys	Pro	Thr	Lys	Ser	Asp	Asp	Asn	Ser	Lys	Val	Met
305					310					315					320
Leu	Gly	Gln	Gln	Ala	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg
				325					330					335	
Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly
			340					345					350		
Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln
		355					360					365			
Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Met	Gly
	370					375					380				
Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr
385					390					395					400
Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Thr	Glu	Asp	Glu	Leu
				405					410					415	
Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Gly	Gly	Ile	Gly	Val	Thr	Asp	Thr	Tyr
			420					425					430		
Gln	Ala	Val	Lys	Thr	Asn	Asn	Gly	Asn	Asn	Gly	Gly	Gln	Val	Thr	Trp
		435					440					445			
Thr	Lys	Asp	Glu	Thr	Phe	Ala	Glu	Arg	Asn	Glu	Ile	Gly	Val	Gly	Asn
	450					455					460				
Asn	Phe	Ala	Met	Glu	Ile	Asn	Leu	Asn	Ala	Asn	Leu	Trp	Arg	Asn	Phe
465					470					475					480
Leu	Tyr	Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Lys	Leu	Lys	Tyr	Asn
				485					490					495	
Pro	Ser	Asn	Val	Asp	Ile	Ser	Asp	Asn	Pro	Asn	Thr	Tyr	Asp	Tyr	Met
			500					505					510		
Asn	Lys	Arg	Val	Val	Ala	Pro	Gly	Leu	Val	Asp	Cys	Tyr	Ile	Asn	Leu
		515					520					525			
Gly	Ala	Arg	Trp	Ser	Leu	Asp	Tyr	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn
	530					535					540				
His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn
545					550					555					560
Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala
				565					570					575	
Ile	Lys	Asn	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn
			580					585					590		
Phe	Arg	Lys	Asp	Val	Asn	Met	Val	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp
		595					600					605			
Leu	Arg	Val	Asp	Gly	Ala	Ser	Ile	Lys	Phe	Glu	Ser	Ile	Cys	Leu	Tyr
	610					615					620				

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Ala Thr Phe Phe Pro Met Ala His Asn Thr Ala Ser Thr Leu Glu Ala
625          630          635          640
Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser
          645          650          655
Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn Ala Thr Asn Val Pro
          660          665          670
Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe Arg Gly Trp Ala Phe
          675          680          685
Thr Arg Leu Lys Thr Lys Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp
690          695          700
Pro Tyr Tyr Thr Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe
705          710          715          720
Tyr Leu Asn His Thr Phe Lys Lys Val Ser Val Thr Phe Asp Ser Ser
          725          730          735
Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu
          740          745          750
Ile Lys Arg Ser Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn
          755          760          765
Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu Ala Asn Tyr Asn Ile
770          775          780
Gly Tyr Gln Gly Phe Tyr Ile Pro Glu Ser Tyr Lys Asp Arg Met Tyr
785          790          795          800
Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Gln
          805          810          815
Thr Lys Tyr Lys Asp Tyr Gln Glu Val Gly Ile Ile His Gln His Asn
          820          825          830
Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Glu Gly Gln
          835          840          845
Ala Tyr Pro Ala Asn Phe Pro Tyr Pro Leu Ile Gly Lys Thr Ala Val
850          855          860
Asp Ser Ile Thr Gln Lys Lys Phe Leu Cys Asp Arg Thr Leu Trp Arg
865          870          875          880
Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu
          885          890          895
Gly Gln Asn Leu Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Thr
          900          905          910
Phe Glu Val Asp Pro Met Asp Glu Pro Thr Leu Leu Tyr Val Leu Phe
915          920          925
Glu Val Phe Asp Val Val Arg Val His Gln Pro His Arg Gly Val Ile
930          935          940
Glu Thr Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
945          950          955          960

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<210> 94

<211> 944

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 16 Hexon

<400> 94

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1          5          10          15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
          20          25          30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
          35          40          45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50          55          60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65          70          75          80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
          85          90          95

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Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Ser	Ser	Gln	Trp	Glu	Gln	Thr	Glu	Asn	Gly	Gly	Gly	Gln
	130					135					140				
Ala	Thr	Thr	Lys	Thr	His	Thr	Tyr	Gly	Val	Ala	Pro	Met	Gly	Gly	Thr
145					150					155					160
Asn	Ile	Thr	Val	Asp	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Ala	Thr	Ala	Asp
			165						170					175	
Thr	Glu	Lys	Pro	Ile	Tyr	Ala	Asp	Lys	Thr	Phe	Gln	Pro	Glu	Pro	Gln
		180						185					190		
Ile	Gly	Glu	Glu	Asn	Trp	Gln	Glu	Thr	Glu	Ser	Phe	Tyr	Gly	Gly	Arg
	195					200						205			
Ala	Leu	Lys	Lys	Asp	Thr	Asn	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala
	210					215					220				
Arg	Pro	Thr	Asn	Glu	Lys	Gly	Gly	Gln	Ala	Lys	Leu	Lys	Val	Gly	Ala
225					230					235					240
Asp	Gly	Leu	Pro	Thr	Lys	Glu	Phe	Asp	Ile	Asp	Leu	Ala	Phe	Phe	Asp
				245					250					255	
Thr	Pro	Gly	Gly	Thr	Val	Thr	Gly	Gly	Thr	Glu	Glu	Tyr	Lys	Ala	Asp
		260						265					270		
Ile	Val	Met	Tyr	Thr	Glu	Asn	Thr	Tyr	Leu	Glu	Thr	Pro	Asp	Thr	His
	275					280						285			
Val	Val	Tyr	Lys	Pro	Gly	Lys	Asp	Asn	Thr	Ser	Ser	Lys	Ile	Asn	Leu
	290					295					300				
Val	Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp
305					310					315					320
Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val
			325						330					335	
Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp
		340						345					350		
Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp
	355						360					365			
Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp
	370					375					380				
Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro
385					390					395					400
Asn	Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Ser	Gly	Thr	Asn	Ala	Ala	Tyr	Gln
			405						410					415	
Gly	Val	Lys	Val	Lys	Asn	Gly	Gln	Asp	Gly	Asp	Val	Glu	Ser	Glu	Trp
		420						425					430		
Glu	Lys	Asp	Asp	Thr	Val	Ala	Ala	Arg	Asn	Gln	Leu	Cys	Lys	Gly	Asn
		435				440						445			
Ile	Phe	Ala	Met	Glu	Ile	Asn	Leu	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe
	450					455					460				
Leu	Tyr	Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr
465					470					475					480
Pro	Ala	Asn	Ile	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met
				485					490					495	
Asn	Gly	Arg	Val	Val	Pro	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile
			500					505					510		
Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn
		515					520					525			
His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn
	530					535					540				
Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala
545					550					555					560
Ile	Lys	Ser	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn
				565					570					575	


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Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser Ser Leu Gly Asn Asp
580 585 590
Leu Arg Thr Asp Gly Ala Ser Ile Ser Phe Thr Ser Ile Asn Leu Tyr
595 600 605
Ala Thr Phe Phe Pro Met Ala His Asn Thr Ala Ser Thr Leu Glu Ala
610 615 620
Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser
625 630 635 640
Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn Ala Thr Asn Val Pro
645 650 655
Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe
660 665 670
Thr Arg Leu Lys Thr Lys Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp
675 680 685
Pro Tyr Phe Val Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe
690 695 700
Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile Thr Phe Asp Ser Ser
705 710 715 720
Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu
725 730 735
Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn
740 745 750
Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu Ala His Tyr Asn Ile
755 760 765
Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg Met Tyr
770 775 780
Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Glu
785 790 795 800
Val Asn Tyr Lys Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln His Asn
805 810 815
Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln
820 825 830
Pro Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val
835 840 845
Ala Ser Val Thr Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg
850 855 860
Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu
865 870 875 880
Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn
885 890 895
Phe Glu Val Asp Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe
900 905 910
Glu Val Phe Asp Val Val Arg Val His Gln Pro His Arg Gly Val Ile
915 920 925
Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
930 935 940

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<210> 95

<211> 960

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 17 Hexon

<400> 95

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Met Ala Thr Pro Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ser
1 5 10 15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20 25 30
Arg Ala Thr Glu Ser Tyr Phe Ser Leu Ser Asn Lys Phe Arg Asn Pro
35 40 45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50 55 60

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Thr	Leu	Arg	Phe	Ile	Pro	Val	Asp	Arg	Glu	Asp	Thr	Ala	Tyr	Ser	Tyr
65					70					75					80
Lys	Ala	Arg	Phe	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
				85					90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Thr
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Ser	Cys	Glu	Trp	Glu	Gln	Glu	Glu	Thr	Gln	Ala	Val	Glu
	130					135					140				
Glu	Ala	Ala	Glu	Glu	Glu	Glu	Asp	Ala	Asp	Gly	Gln	Ala	Glu	Glu	
145					150				155						160
Glu	Gln	Ala	Ala	Thr	Lys	Lys	Thr	His	Val	Tyr	Ala	Gln	Ala	Pro	Leu
				165					170					175	
Ser	Gly	Glu	Lys	Ile	Ser	Lys	Asp	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Ala
			180					185					190		
Thr	Ala	Thr	Glu	Gln	Lys	Pro	Ile	Tyr	Ala	Asp	Pro	Thr	Phe	Gln	Pro
		195					200					205			
Glu	Pro	Gln	Ile	Gly	Glu	Ser	Gln	Trp	Asn	Glu	Ala	Asp	Ala	Thr	Val
	210					215					220				
Ala	Gly	Gly	Arg	Val	Leu	Lys	Lys	Ser	Thr	Pro	Met	Lys	Pro	Cys	Tyr
225					230					235					240
Gly	Ser	Tyr	Ala	Arg	Pro	Thr	Asn	Ala	Asn	Gly	Gly	Gln	Gly	Val	Leu
				245					250					255	
Thr	Ala	Asn	Ala	Gln	Gly	Gln	Leu	Glu	Ser	Gln	Val	Glu	Met	Gln	Phe
			260					265					270		
Phe	Ser	Thr	Ser	Glu	Asn	Ala	Arg	Asn	Glu	Thr	Asn	Asn	Ile	Gln	Pro
		275					280					285			
Lys	Leu	Val	Leu	Tyr	Ser	Glu	Asp	Val	His	Met	Glu	Thr	Pro	Asp	Thr
	290					295					300				
His	Leu	Ser	Tyr	Lys	Pro	Ala	Lys	Ser	Asp	Asp	Asn	Ser	Lys	Ile	Met
305					310					315					320
Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg
				325					330					335	
Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly
			340					345					350		
Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln
		355					360					365			
Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Met	Gly
	370					375					380				
Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr
385					390					395					400
Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Thr	Glu	Asp	Glu	Leu
			405						410					415	
Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Gly	Gly	Ile	Gly	Val	Thr	Asp	Thr	Tyr
			420					425					430		
Gln	Ala	Val	Lys	Thr	Asn	Asn	Gly	Asn	Asn	Gly	Gly	Gln	Val	Thr	Trp
		435					440					445			
Thr	Lys	Asp	Glu	Thr	Phe	Ala	Asp	Arg	Asn	Glu	Ile	Gly	Val	Gly	Asn
	450					455					460				
Asn	Phe	Ala	Met	Glu	Ile	Asn	Leu	Ser	Ala	Asn	Leu	Trp	Arg	Asn	Phe
465					470					475					480
Leu	Tyr	Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Lys	Leu	Lys	Tyr	Asn
			485						490					495	
Pro	Ser	Asn	Val	Asp	Ile	Ser	Asp	Asn	Pro	Asn	Thr	Tyr	Asp	Tyr	Met
			500					505					510		
Asn	Lys	Arg	Val	Val	Ala	Pro	Gly	Leu	Val	Asp	Cys	Tyr	Ile	Asn	Leu
		515					520					525			
Gly	Ala	Arg	Trp	Ser	Leu	Asp	Tyr	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn
	530					535					540				

His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn
545					550					555					560
Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala
				565				570							575
Ile	Lys	Asn	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn
			580					585					590		
Phe	Arg	Lys	Asp	Val	Asn	Met	Val	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp
		595					600					605			
Leu	Arg	Val	Asp	Gly	Ala	Ser	Ile	Lys	Phe	Glu	Ser	Ile	Cys	Leu	Tyr
	610					615					620				
Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala
625					630					635					640
Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser
			645					650						655	
Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro
			660					665					670		
Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ala	Phe
	675						680					685			
Thr	Arg	Leu	Lys	Thr	Lys	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp
	690					695					700				
Pro	Tyr	Tyr	Thr	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe
705					710					715					720
Tyr	Leu	Asn	His	Thr	Phe	Lys	Lys	Val	Ser	Val	Thr	Phe	Asp	Ser	Ser
			725					730						735	
Val	Ser	Trp	Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu
			740					745					750		
Ile	Lys	Arg	Ser	Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn
	755						760					765			
Met	Thr	Lys	Asp	Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	Asn	Tyr	Asn	Ile
	770					775					780				
Gly	Tyr	Gln	Gly	Phe	Tyr	Ile	Pro	Glu	Ser	Tyr	Lys	Asp	Arg	Met	Tyr
785					790					795					800
Ser	Phe	Phe	Arg	Asn	Phe	Gln	Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Gln
			805					810						815	
Thr	Lys	Tyr	Lys	Asp	Tyr	Gln	Glu	Val	Gly	Ile	Ile	His	Gln	His	Asn
			820					825					830		
Asn	Ser	Gly	Phe	Val	Gly	Tyr	Leu	Ala	Pro	Thr	Met	Arg	Glu	Gly	Gln
	835						840					845			
Ala	Tyr	Pro	Ala	Asn	Phe	Pro	Tyr	Pro	Leu	Ile	Gly	Lys	Thr	Ala	Val
	850					855					860				
Asp	Ser	Ile	Thr	Gln	Lys	Lys	Phe	Leu	Cys	Asp	Arg	Thr	Leu	Trp	Arg
865					870					875					880
Ile	Pro	Phe	Ser	Ser	Asn	Phe	Met	Ser	Met	Gly	Ala	Leu	Ser	Asp	Leu
			885					890						895	
Gly	Gln	Asn	Leu	Leu	Tyr	Ala	Asn	Ser	Ala	His	Ala	Leu	Asp	Met	Thr
		900						905					910		
Phe	Glu	Val	Asp	Pro	Met	Asp	Glu	Pro	Thr	Leu	Leu	Tyr	Val	Leu	Phe
	915						920					925			
Glu	Val	Phe	Asp	Val	Val	Arg	Val	His	Gln	Pro	His	Arg	Gly	Val	Ile
	930					935					940				
Glu	Thr	Val	Tyr	Leu	Arg	Thr	Pro	Phe	Ser	Ala	Gly	Asn	Ala	Thr	Thr
945					950					955					960

<210> 96

<211> 958

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 19 Hexon

<400> 96

Met	Ala	Thr	Pro	Ser	Met	Met	Pro	Gln	Trp	Ser	Tyr	Met	His	Ile	Ser
1					5				10					15	

Gly	Gln	Asp	Ala	Ser	Glu	Tyr	Leu	Ser	Pro	Gly	Leu	Val	Gln	Phe	Ala	
			20					25					30			
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<211> 2865

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 8 Hexon

<400> 97

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<211> 954

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<213> Chimpanzee Adenovirus ChAd 8

<400> 98

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<212> DNA

<213> Chimpanzee Adenovirus- ChAd 22 Hexon

<400> 99

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<210> 100

<211> 956

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 22 Hexon

<400> 100

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<210> 101

<211> 2865

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 24 Hexon

<400> 101

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<210> 102

<211> 954

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 24 Hexon

<400> 102

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<210> 103

<211> 2841

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 26 Hexon

<400> 103

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<210> 104

<211> 946

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 26 Hexon

<400> 104

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Thr	Phe	Tyr	Leu	Asn	His	Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp
705					710					715					720
Ser	Ser	Val	Ser	Trp	Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu
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Asp	Glu	Val	Asn	Tyr	Lys	Asp	Tyr	Gln	Ala	Val	Thr	Leu	Ala	Tyr	Gln
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His	Asn	Asn	Ser	Gly	Phe	Val	Gly	Tyr	Leu	Ala	Pro	Thr	Met	Arg	Gln
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$\langle 210 \rangle$	105
$\langle 211 \rangle$	2838

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 30 Hexon

<400> 105

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<210> 106

<211> 945

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 30 Hexon

<400> 106

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<210> 107

<211> 2877

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 31 Hexon

<400> 107

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<210> 108

<211> 958

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 31 Hexon

<400> 108

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<211> 2856

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 37 Hexon

<400> 109

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<210> 110

<211> 951

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 37 Hexon

<400> 110

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
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Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met	
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Lys Asn Thr Tyr Gly Tyr Ile Asn Gly Arg Val Val Ser Pro Ser Leu
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530 535 540
Arg Ser Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln
545 550 555 560
Val Pro Gln Lys Ile Phe Ala Val Lys Asn Leu Leu Leu Leu Pro Gly
565 570 575
Ser Tyr Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Val Leu
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Gln Ser Ser Leu Gly Asn Asp Leu Arg Thr Asp Gly Ala Ser Ile Ser
595 600 605
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625 630 635 640
Ser Phe Asn Asp Tyr Leu Ser Ala Ala Asn Met Leu Tyr Pro Ile Pro
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660 665 670
Ala Phe Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys Glu Thr Pro
675 680 685
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Pro Tyr Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val
705 710 715 720
Ser Ile Met Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu
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770 775 780
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785 790 795 800
Ser Arg Gln Val Val Asp Glu Ile Asn Tyr Lys Glu Tyr Gln Ala Val
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820 825 830
Pro Thr Leu Arg Gln Gly Gln Pro Tyr Pro Ala Asn Tyr Pro Tyr Pro
835 840 845
Leu Ile Gly Thr Thr Ala Val Thr Ser Val Thr Gln Lys Lys Phe Leu
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Cys Asp Arg Thr Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser
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900 905 910
Thr Leu Leu Tyr Leu Leu Phe Glu Val Phe Asp Val Val Arg Val His
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<210> 111

<211> 2817

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 38 Hexon

<400> 111

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<210> 112

<211> 938

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 38 Hexon

<400> 112

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Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	Tyr	Ser
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Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	Thr	Phe
		690				695					700				
Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	Gly	Asn
705					710					715					720
Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	Val	Asp
				725					730					735	
Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	Trp	Phe
		740						745					750		
Leu	Val	Gln	Met	Leu	Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly	Phe	Tyr
		755					760					765			
Val	Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg	Asn	Phe
		770				775					780				
Gln	Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Glu	Val	Asn	Tyr	Lys	Asp	Tyr
785					790					795					800
Gln	Ala	Val	Thr	Leu	Ala	Tyr	Gln	His	Asn	Asn	Ser	Gly	Phe	Val	Gly
				805					810					815	
Tyr	Leu	Ala	Pro	Thr	Met	Arg	Gln	Gly	Gln	Pro	Tyr	Pro	Ala	Asn	Tyr
		820						825					830		
Pro	Tyr	Pro	Leu	Ile	Gly	Lys	Ser	Ala	Val	Thr	Ser	Val	Thr	Gln	Lys
		835					840					845			
Lys	Phe														

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<210> 113
<211> 2781
<212> DNA
<213> Chimpanzee Adenovirus- ChAd 44 Hexon
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<400> 113

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ctggggaaca agtttaggaa cccacaggtg gcgcccacgc acgatgtgac caccgaccgc 180
agccagcggc tgacgctgcg cttcgtgccc gtggaccgcg aggacaacac ctactcgtac 240
aaagtgcgct acacgctggc cgtgggcgac aaccgcgtgc tggacatggc cagcacctac 300
tttgacatcc gcggcgtgct ggaccggggc cctagcttca aaccctactc cggcaccgcc 360
tacaacagcc tggcccccaa gggagcggcc aatcccagcc agtgggaaca aactgaaacc 420
aatgttaata aaacacacac cttcggaatg gcagccatga aaggagaggc tattgacaaa 480
aatggtctgc aaattggaac tgacgctgcg gatcaggata aaccaattta tgcagataaa 540
acattccagc ctgaacctca agtaggagag gaagactgga ttgacaaagc agatttttat 600
ggcggaaagag ctcttaaaaa agataccaag atgaaaccat gctatggctc atttgccaaa 660
cctacaaatg tcaagggagg acaggcaacg cccaggacta aagcagatgg aactactgag 720
cctgatattg acatgaactt ctttgaccca accactatta acacaccaga tgtagtgttg 780
tatgctgaaa atgttgattt gcaaactcca gacaccata tagtttataa agcaggaact 840
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gacctcggcc agaactgct ctatgccaac tccgcccacg cgctagacat gaatttcgaa 2640
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gccgtaacg ccaccaccta a

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<210> 114

<211> 926

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 44 Hexon

<400> 114

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1           5           10          15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20           25           30

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Arg	Ala	Thr	Asp	Thr	Tyr	Phe	Ser	Leu	Gly	Asn	Lys	Phe	Arg	Asn	Pro
		35					40					45			
Thr	Val	Ala	Pro	Thr	His	Asp	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu
	50					55					60				
Thr	Leu	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr
65					70					75					80
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
				85					90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Pro	Ser	Gln	Trp	Glu	Gln	Thr	Glu	Thr	Asn	Val	Asn	Lys
	130					135					140				
Thr	His	Thr	Phe	Gly	Met	Ala	Ala	Met	Lys	Gly	Glu	Ala	Ile	Asp	Lys
145					150					155					160
Asn	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Ala	Ala	Asp	Gln	Asp	Lys	Pro	Ile
				165					170					175	
Tyr	Ala	Asp	Lys	Thr	Phe	Gln	Pro	Glu	Pro	Gln	Val	Gly	Glu	Glu	Asp
			180					185					190		
Trp	Ile	Asp	Lys	Ala	Asp	Phe	Tyr	Gly	Gly	Arg	Ala	Leu	Lys	Lys	Asp
		195					200					205			
Thr	Lys	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Lys	Pro	Thr	Asn	Val
	210					215					220				
Lys	Gly	Gly	Gln	Ala	Thr	Pro	Arg	Thr	Lys	Ala	Asp	Gly	Thr	Thr	Glu
225					230					235					240
Pro	Asp	Ile	Asp	Met	Asn	Phe	Phe	Asp	Pro	Thr	Thr	Ile	Asn	Thr	Pro
				245					250					255	
Asp	Val	Val	Leu	Tyr	Ala	Glu	Asn	Val	Asp	Leu	Gln	Thr	Pro	Asp	Thr
			260					265					270		
His	Ile	Val	Tyr	Lys	Ala	Gly	Thr	Ser	Asp	Asp	Ser	Ser	Glu	Val	Asn
		275					280					285			
Leu	Ala	Gln	Gln	Ala	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg
	290					295					300				
Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly
305					310					315					320
Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln
				325					330					335	
Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly
			340					345					350		
Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr
		355					360					365			
Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu
	370					375					380				
Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Val	Gly	Thr	Asn	Thr	Ala	Tyr
385					390					395					400
Gln	Gly	Val	Lys	Val	Lys	Thr	Thr	Asn	Gly	Asn	Asp	Thr	Trp	Glu	Lys
				405					410					415	
Asp	Glu	Thr	Val	Tyr	Glu	Phe	Asn	Gln	Ile	Gly	Lys	Gly	Asp	Ile	Tyr
			420					425					430		
Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr
		435					440					445			
Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala
	450					455					460				
Asn	Val	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly
465					470					475					480
Arg	Val	Val	Pro	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala
				485					490					495	
Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His
			500					505					510		

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Arg Asn Ala Gly Leu Arg Tyr Arg Ser Met Leu Leu Gly Asn Gly Arg
    515                520                525
Phe Val Pro Phe His Ile Gln Val Pro Gln Lys Phe Phe Ala Ile Lys
    530                535                540
Ser Leu Leu Leu Leu Pro Gly Ser Tyr Thr Tyr Glu Trp Asn Phe Arg
    545                550                555                560
Lys Asp Val Asn Met Ile Leu Gln Ser Ser Leu Gly Asn Asp Leu Arg
    565                570                575
Thr Asp Gly Ala Ser Ile Ser Phe Thr Ser Ile Asn Leu Tyr Ala Thr
    580                585                590
Phe Phe Pro Met Ala His Asn Thr Ala Ser Thr Leu Glu Ala Met Leu
    595                600                605
Arg Asn Asp Thr Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser Ala Ala
    610                615                620
Asn Met Leu Tyr Pro Ile Pro Ala Asn Ala Thr Asn Val Pro Ile Ser
    625                630                635                640
Ile Pro Ser Arg Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg
    645                650                655
Leu Lys Thr Lys Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr
    660                665                670
Phe Val Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu
    675                680                685
Asn His Thr Phe Lys Lys Val Ser Ile Thr Phe Asp Ser Ser Val Ser
    690                695                700
Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu Ile Lys
    705                710                715                720
Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn Met Thr
    725                730                735
Lys Asp Trp Phe Leu Val Gln Met Leu Ala His Tyr Asn Ile Gly Tyr
    740                745                750
Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe
    755                760                765
Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Glu Val Asn
    770                775                780
Tyr Lys Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser
    785                790                795                800
Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr
    805                810                815
Pro Ala Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val Thr Ser
    820                825                830
Val Thr Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro
    835                840                845
Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln
    850                855                860
Asn Met Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu
    865                870                875                880
Val Asp Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val
    885                890                895
Phe Asp Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala
    900                905                910
Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
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<210> 115

<211> 2877

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 63 Hexon

<400> 115

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ctgagtcggg gtctgggtgca gttcgcccg gccacagaca cctacttcag tctggggaac 180
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ctgacgctgc gcttcgtgcc cgtggaccgc gaggacaaca cctactcgta caaagtgcgc 300
tacacgctgg ccgtgggcca caaccgctg ctggacatgg ccagcaccta ctttgacatc 360
cgcggcgtgc tggatcgggg cccagcttc aaaccctact ccggcaccgc ctacaacagc 420
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<210> 116

<211> 941

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 63 Hexon

<400> 116

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
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Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20          25          30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
35          40          45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50          55          60

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Thr	Leu	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr	65	70	75	80
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met	85	90	95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser	100	105	110	
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly	115	120	125	
Ala	Pro	Asn	Thr	Ser	Gln	Trp	Lys	Asp	Ser	Asp	Ser	Lys	Met	His	Thr	130	135	140	
Phe	Gly	Val	Ala	Ala	Met	Pro	Gly	Val	Val	Gly	Lys	Lys	Ile	Glu	Ala	145	150	155	160
Asp	Gly	Leu	Pro	Ile	Gly	Ile	Asp	Ser	Ser	Ser	Gly	Thr	Asp	Thr	Ile	165	170	175	
Ile	Tyr	Ala	Asp	Lys	Thr	Phe	Gln	Pro	Glu	Pro	Gln	Val	Gly	Ser	Asp	180	185	190	
Ser	Trp	Val	Asp	Thr	Asn	Gly	Ala	Glu	Glu	Lys	Tyr	Gly	Gly	Arg	Ala	195	200	205	
Leu	Lys	Asp	Thr	Thr	Asn	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Arg	210	215	220	
Pro	Thr	Asn	Lys	Glu	Gly	Gln	Ala	Asn	Ile	Lys	Asp	Ser	Glu	Thr		225	230	235	240
Ala	Ser	Thr	Thr	Pro	Asn	Tyr	Asp	Ile	Asp	Leu	Ala	Phe	Phe	Asp	Ser	245	250	255	
Lys	Asn	Ile	Ala	Ala	Asn	Tyr	Asp	Pro	Asp	Ile	Val	Met	Tyr	Thr	Glu	260	265	270	
Asn	Val	Glu	Leu	Gln	Thr	Pro	Asp	Thr	His	Ile	Val	Phe	Lys	Pro	Gly	275	280	285	
Thr	Ser	Asp	Glu	Ser	Ser	Glu	Ala	Asn	Leu	Gly	Gln	Gln	Ala	Met	Pro	290	295	300	
Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	305	310	315	320
Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	325	330	335	
Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	340	345	350	
Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	355	360	365	
Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	370	375	380	
Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	385	390	395	400
Asn	Gly	Val	Gly	Phe	Thr	Asp	Thr	Tyr	Gln	Gly	Val	Lys	Val	Lys	Thr	405	410	415	
Asp	Thr	Ala	Ala	Thr	Gly	Thr	Asn	Gly	Thr	Gln	Trp	Asp	Lys	Asp	Asp	420	425	430	
Thr	Thr	Val	Ser	Thr	Ala	Asn	Glu	Ile	His	Ser	Gly	Asn	Pro	Phe	Ala	435	440	445	
Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu	Trp	Arg	Asn	Phe	Leu	Tyr	Ala	450	455	460	
Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	465	470	475	480
Ile	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	485	490	495	
Val	Val	Ala	Pro	Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	500	505	510	
Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	515	520	525	
Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	530	535	540	

Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser
545					550					555					560
Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys
				565					570					575	
Asp	Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr
		580						585					590		
Asp	Gly	Ala	Ser	Ile	Ala	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe
	595						600					605			
Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg
610						615					620				
Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn
625					630					635					640
Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile
				645					650					655	
Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu
			660					665					670		
Lys	Thr	Arg	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe
	675						680					685			
Val	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn
690						695					700				
His	Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp
705					710					715					720
Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg
				725					730					735	
Thr	Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys
			740					745					750		
Asp	Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln
	755					760						765			
Gly	Phe	Tyr	Val	Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe
770						775					780				
Arg	Asn	Phe	Gln	Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Glu	Val	Asn	Tyr
785					790					795					800
Lys	Asp	Tyr	Gln	Ala	Val	Thr	Leu	Ala	Tyr	Gln	His	Asn	Asn	Ser	Gly
				805					810					815	
Phe	Val	Gly	Tyr	Leu	Ala	Pro	Thr	Met	Arg	Gln	Gly	Gln	Pro	Tyr	Pro
				820				825					830		
Ala	Asn	Tyr	Pro	Tyr	Pro	Leu	Ile	Gly	Lys	Ser	Ala	Val	Ala	Ser	Val
	835					840						845			
Thr	Gln	Lys	Lys	Phe	Leu	Cys	Asp	Arg	Val	Met	Trp	Arg	Ile	Pro	Phe
850						855					860				
Ser	Ser	Asn	Phe	Met	Ser	Met	Gly	Ala	Leu	Thr	Asp	Leu	Gly	Gln	Asn
865					870					875					880
Met	Leu	Tyr	Ala	Asn	Ser	Ala	His	Ala	Leu	Asp	Met	Asn	Phe	Glu	Val
				885					890					895	
Asp	Pro	Met	Asp	Glu	Ser	Thr	Leu	Leu	Tyr	Val	Val	Phe	Glu	Val	Phe
			900					905					910		
Asp	Val	Val	Arg	Val	His	Gln	Pro	His	Arg	Gly	Val	Ile	Glu	Ala	Val
	915						920					925			
Tyr	Leu	Arg	Thr	Pro	Phe	Ser	Ala	Gly	Asn	Ala	Thr	Thr			
930						935					940				

<210> 117

<211> 2811

<212> DNA

<213> Chimpanzee Adenovirus- ChAd 82 Hexon

<400> 117

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atggccaccc catcgatgct gccccagtgg gcgtacatgc acatcgccgg acaggacgct 60
tcggagtacc tgagtcgagg tctggtgcag ttcgcccgcg ccacagacac ctacttcagt 120
ctggggaaca agtttaggaa cccacgggtg gcgcccacgc acgatgtgac caccgaccgc 180
agccagcggc tgacgctgcg cttcgtgccc gtggaccgcg aggacaacac ctactcgtac 240

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aaagtgcgct acacgctggc cgtgggcgac aaccgcgtgc tggacatggc cagcacttac 300
tttgacatcc gcggcgtgct ggaccggggc cctagcttca aaccctactc cggcaccgcc 360
tacaacagcc tggctcccaa gggagcgccc aattccagcc agtgggagca aaatgaaaac 420
aatggtcaag gtcaagctaa gacacacacc tatggtgttg ctgctatggg cggacttgat 480
attacaaaag agggctctta aattgtaact gatgctagta aggaagatga caatgaaatt 540
tatgcagata aaacatatca gcccagagcct caaataggag aggaaaattg gcaagacact 600
aaaaactttt atggaggcag agctcttaaa aaagatacca agatgaagcc atgctatggc 660
tcatttgcca gacctaccaa tgtgaaggga gggcaagcca aagtgaaaac agaagaaaat 720
gttcagtcac ttgacataga tctggctttc tttgatattc caagcaccgg cacagggggc 780
aatggtacaa atgtaaata taagccagac atgggttatgt acactgaaaa tgtgaatctg 840
gagacgccag atactcatat tgtgtacaaa cctggaactt cagatgacag ctctgaagcc 900
aacttgtgcc agcaggccat gccaaacaga ccaactaca ttggtttcag agacaacttt 960
attgggctca tgtattacaa cagtactggc aatatggggg tgctggctgg tcaggcctcc 1020
cagctgaatg ctgtggttga cttgcaagac agaaacaccg agctgtcata ccagctcttg 1080
cttgactctc tgggtgacag aaccgggtat ttcagcatgt ggaaccaggc ggtggacagt 1140
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tgcttcccct tggatggagc tggcactaat gctgtatacc ggggtgttaa agcaaaagat 1260
aacggaaact gggaacaaga cacaggcggt tcaagtatta accagatatg caaggggaac 1320
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gtggccctgt acctgcccga ctcttacaag tacacgccgg ccaacatcac cctgcccacc 1440
aacaccaaca cctacgatta catgaacggt cgggtggtgc ctccctcgct ggtggacgcc 1500
tacctacaac tcggggcgcg ctggtcgctg gaccccatgg acaacgtcaa tcccttcaac 1560
caccaccgca acgcgggcct gcgctacgcg tccatgctcc tgggcaacgg gcgctacgtg 1620
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gggtcctaca cctacgagt gaacttccgc aaggacgtca acatgatcct gcagagctcc 1740
ctcggaacg acctgcgcac ggacggggcc tccatctcct tcaccagcat caacctctac 1800
gccaccttct tcccacatgg gcacaacacg gcctccacgc tcgaggccat gctgcgcaac 1860
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ccggccaacg ccaccaacgt gcccatctcc atcccctcgc gcaactgggc cgccttccgc 1980
ggctggtcct tcacgcgtct caagaccaag gagacgcctt cgtgggctc cgggttcgac 2040
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accttcaaga aggtctccat caccttcgac tcctccgtca gctggcccgg caacgaccgg 2160
ctcctgacgc ccaacgagtt cgaatcaag cgcaccgtcg acggcgaggg ctacaacgtg 2220
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cgccaggggc agccctaccc cgccaactac ccgtacccgc tcacggcaa gagcgccgtc 2520
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tatgttgtct tcgaagtctt cgacgtcgtc cgagtgcacc agccccaccg cggcgctcatc 2760
gaggccgtct acctgcgcac acccttctcg gccggtaacg ccaccaccta a 2811

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<210> 118

<211> 936

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 82 Hexon

<400> 118

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
 1           5           10           15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
 20           25           30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
 35           40           45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
 50           55           60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65           70           75           80

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Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
			85						90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Ser	Ser	Gln	Trp	Glu	Gln	Asn	Glu	Asn	Asn	Gly	Gln	Gly
		130				135					140				
Gln	Ala	Lys	Thr	His	Thr	Tyr	Gly	Val	Ala	Ala	Met	Gly	Gly	Leu	Asp
145					150					155					160
Ile	Thr	Lys	Glu	Gly	Leu	Lys	Ile	Val	Thr	Asp	Ala	Ser	Lys	Glu	Asp
			165						170					175	
Asp	Asn	Glu	Ile	Tyr	Ala	Asp	Lys	Thr	Tyr	Gln	Pro	Glu	Pro	Gln	Ile
			180					185					190		
Gly	Glu	Glu	Asn	Trp	Gln	Asp	Thr	Lys	Asn	Phe	Tyr	Gly	Gly	Arg	Ala
		195				200						205			
Leu	Lys	Lys	Asp	Thr	Lys	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Arg
	210					215					220				
Pro	Thr	Asn	Val	Lys	Gly	Gly	Gln	Ala	Lys	Val	Lys	Thr	Glu	Glu	Asn
225					230					235					240
Val	Gln	Ser	Phe	Asp	Ile	Asp	Leu	Ala	Phe	Phe	Asp	Ile	Pro	Ser	Thr
			245						250					255	
Gly	Thr	Gly	Gly	Asn	Gly	Thr	Asn	Val	Asn	Asp	Lys	Pro	Asp	Met	Val
			260					265					270		
Met	Tyr	Thr	Glu	Asn	Val	Asn	Leu	Glu	Thr	Pro	Asp	Thr	His	Ile	Val
		275					280					285			
Tyr	Lys	Pro	Gly	Thr	Ser	Asp	Asp	Ser	Ser	Glu	Ala	Asn	Leu	Cys	Gln
	290					295					300				
Gln	Ala	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe
305					310					315					320
Ile	Gly	Leu	Met	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	
			325					330					335		
Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn
			340					345					350		
Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr
		355					360					365			
Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp
	370					375					380				
Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr
385					390					395					400
Cys	Phe	Pro	Leu	Asp	Gly	Ala	Gly	Thr	Asn	Ala	Val	Tyr	Arg	Gly	Val
			405						410					415	
Lys	Ala	Lys	Asp	Asn	Gly	Asn	Trp	Glu	Gln	Asp	Thr	Gly	Val	Ser	Ser
			420					425					430		
Ile	Asn	Gln	Ile	Cys	Lys	Gly	Asn	Ile	Tyr	Ala	Met	Glu	Ile	Asn	Ile
	435						440					445			
Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	Ser	Asn	Val	Ala	Leu	Tyr
	450					455					460				
Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro	Thr
465					470					475					480
Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	Val	Pro	Pro	Ser
			485						490					495	
Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro
			500					505					510		
Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg
	515						520					525			
Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His	Ile
	530					535					540				
Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Leu	Pro
545					550					555					560

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Gly Ser Tyr Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile
                    565                    570                    575
Leu Gln Ser Ser Leu Gly Asn Asp Leu Arg Thr Asp Gly Ala Ser Ile
                    580                    585                    590
Ser Phe Thr Ser Ile Asn Leu Tyr Ala Thr Phe Phe Pro Met Ala His
                    595                    600                    605
Asn Thr Ala Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp
                    610                    615                    620
Gln Ser Phe Asn Asp Tyr Leu Ser Ala Ala Asn Met Leu Tyr Pro Ile
                    625                    630                    635
Pro Ala Asn Ala Thr Asn Val Pro Ile Ser Ile Pro Ser Arg Asn Trp
                    645                    650                    655
Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys Glu Thr
                    660                    665                    670
Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr Phe Val Tyr Ser Gly Ser
                    675                    680                    685
Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys
                    690                    695                    700
Val Ser Ile Thr Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg
                    705                    710                    715
Leu Leu Thr Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp Gly Glu
                    725                    730                    735
Gly Tyr Asn Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe Leu Val
                    740                    745                    750
Gln Met Leu Ala His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro
                    755                    760                    765
Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro
                    770                    775                    780
Met Ser Arg Gln Val Val Asp Glu Val Asn Tyr Lys Asp Tyr Gln Ala
                    785                    790                    795
Val Thr Leu Ala Tyr Gln His Asn Asn Ser Gly Phe Val Gly Tyr Leu
                    805                    810                    815
Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr Pro Ala Asn Tyr Pro Tyr
                    820                    825                    830
Pro Leu Ile Gly Lys Ser Ala Val Thr Ser Val Thr Gln Lys Lys Phe
                    835                    840                    845
Leu Cys Asp Arg Val Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met
                    850                    855                    860
Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn
                    865                    870                    875
Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp Pro Met Asp Glu
                    885                    890                    895
Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp Val Val Arg Val
                    900                    905                    910
His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg Thr Pro
                    915                    920                    925
Phe Ser Ala Gly Asn Ala Thr
                    930                    935

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<210> 119

<211> 933

<212> PRT

<213> Chimpanzee Adenovirus- CV23 Pan5 Hexon

<400> 119

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1          5          10
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20         25         30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
35         40         45

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Thr	Val	Ala	Pro	Thr	His	Asp	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu
50						55					60				
Thr	Leu	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr
65					70					75					80
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
				85					90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
		115					120					125			
Ala	Pro	Asn	Thr	Cys	Gln	Trp	Thr	Tyr	Lys	Ala	Asp	Gly	Asp	Thr	Gly
	130					135					140				
Thr	Glu	Lys	Thr	Tyr	Thr	Gly	Asn	Ala	Pro	Val	Gln	Gly	Ile	Ser	
145					150				155					160	
Ile	Thr	Lys	Asp	Gly	Ile	Gln	Leu	Gly	Thr	Asp	Thr	Asp	Asp	Gln	Pro
			165						170					175	
Ile	Tyr	Ala	Asp	Lys	Thr	Tyr	Gln	Pro	Glu	Pro	Gln	Val	Gly	Asp	Ala
			180						185				190		
Glu	Trp	His	Asp	Ile	Thr	Gly	Thr	Asp	Glu	Lys	Tyr	Gly	Gly	Arg	Ala
		195					200					205			
Leu	Lys	Pro	Asp	Thr	Lys	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Lys
	210					215					220				
Pro	Thr	Asn	Lys	Glu	Gly	Gly	Gln	Ala	Asn	Val	Lys	Thr	Glu	Thr	Gly
225					230					235					240
Gly	Thr	Lys	Glu	Tyr	Asp	Ile	Asp	Met	Ala	Phe	Phe	Asp	Asn	Arg	Ser
				245					250					255	
Ala	Ala	Ala	Ala	Gly	Leu	Ala	Pro	Glu	Ile	Val	Leu	Tyr	Thr	Glu	Asn
			260					265					270		
Val	Asp	Leu	Glu	Thr	Pro	Asp	Thr	His	Ile	Val	Tyr	Lys	Ala	Gly	Thr
		275					280					285			
Asp	Asp	Ser	Ser	Ser	Ser	Ile	Asn	Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn
	290					295					300				
Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr
305					310					315					320
Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln
				325					330					335	
Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr
		340						345					350		
Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met
		355					360					365			
Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu
	370					375					380				
Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asp
385					390					395					400
Ala	Val	Gly	Arg	Thr	Asp	Thr	Tyr	Gln	Gly	Ile	Lys	Ala	Asn	Gly	Ala
				405					410					415	
Asp	Gln	Thr	Thr	Trp	Thr	Lys	Asp	Asp	Thr	Val	Asn	Asp	Ala	Asn	Glu
			420					425					430		
Leu	Gly	Lys	Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn
		435					440					445			
Leu	Trp	Arg	Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp
	450					455					460				
Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro	Thr	Asn	Thr	Asn
465					470					475					480
Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro	Ser	Leu	Val	Asp
				485					490					495	
Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn
			500					505					510		
Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser
		515					520					525			

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Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln Val Pro
530                    535                    540
Gln Lys Phe Phe Ala Ile Lys Ser Leu Leu Leu Leu Pro Gly Ser Tyr
545                    550                    555                    560
Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser
565                    570                    575
Ser Leu Gly Asn Asp Leu Arg Thr Asp Gly Ala Ser Ile Ala Phe Thr
580                    585                    590
Ser Ile Asn Leu Tyr Ala Thr Phe Phe Pro Met Ala His Asn Thr Ala
595                    600                    605
Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe
610                    615                    620
Asn Asp Tyr Leu Ser Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn
625                    630                    635                    640
Ala Thr Asn Val Pro Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe
645                    650                    655
Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Arg Glu Thr Pro Ser Leu
660                    665                    670
Gly Ser Gly Phe Asp Pro Tyr Phe Val Tyr Ser Gly Ser Ile Pro Tyr
675                    680                    685
Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile
690                    695                    700
Thr Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr
705                    710                    715                    720
Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn
725                    730                    735
Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu
740                    745                    750
Ala His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr
755                    760                    765
Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg
770                    775                    780
Gln Val Val Asp Glu Val Asn Tyr Lys Asp Tyr Gln Ala Val Thr Leu
785                    790                    795                    800
Ala Tyr Gln His Asn Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr
805                    810                    815
Met Arg Gln Gly Gln Pro Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile
820                    825                    830
Gly Lys Ser Ala Val Ala Ser Val Thr Gln Lys Lys Phe Leu Cys Asp
835                    840                    845
Arg Val Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly
850                    855                    860
Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His
865                    870                    875                    880
Ala Leu Asp Met Asn Phe Glu Val Asp Pro Met Asp Glu Ser Thr Leu
885                    890                    895
Leu Tyr Val Val Phe Glu Val Phe Asp Val Val Arg Val His Gln Pro
900                    905                    910
His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala
915                    920                    925
Gly Asn Ala Thr Thr
930

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<210> 120

<211> 942

<212> PRT

<213> Chimpanzee Adenovirus- CV32 Pan6 Hexon

<400> 120

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1              5              10              15

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Gly	Gln	Asp	Ala	Ser	Glu	Tyr	Leu	Ser	Pro	Gly	Leu	Val	Gln	Phe	Ala	
			20					25					30			
Arg	Ala	Thr	Asp	Thr	Tyr	Phe	Ser	Leu	Gly	Asn	Lys	Phe	Arg	Asn	Pro	
		35					40					45				
Thr	Val	Ala	Pro	Thr	His	Asn	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu	
	50				55					60						
Thr	Val	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr	
65					70					75					80	
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met	
				85					90					95		
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser	
			100					105					110			
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly	
		115					120					125				
Ala	Pro	Asn	Ser	Ser	Gln	Trp	Glu	Gln	Ala	Lys	Thr	Gly	Asn	Gly	Gly	
	130					135					140					
Thr	Met	Glu	Thr	His	Thr	Tyr	Gly	Val	Ala	Pro	Met	Gly	Gly	Glu	Asn	
145				150						155					160	
Ile	Thr	Lys	Asp	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Val	Thr	Ala	Asn	Gln	
				165					170					175		
Asn	Lys	Pro	Ile	Tyr	Ala	Asp	Lys	Thr	Phe	Gln	Pro	Glu	Pro	Gln	Val	
			180					185					190			
Gly	Glu	Glu	Asn	Trp	Gln	Glu	Thr	Glu	Asn	Phe	Tyr	Gly	Gly	Arg	Ala	
		195					200					205				
Leu	Lys	Lys	Asp	Thr	Asn	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Tyr	Ala	Arg	
	210					215					220					
Pro	Thr	Asn	Glu	Lys	Gly	Gly	Gln	Ala	Lys	Leu	Lys	Val	Gly	Asp	Asp	
225					230					235					240	
Gly	Val	Pro	Thr	Lys	Glu	Phe	Asp	Ile	Asp	Leu	Ala	Phe	Phe	Asp	Thr	
				245					250					255		
Pro	Gly	Gly	Thr	Val	Asn	Gly	Gln	Asp	Glu	Tyr	Lys	Ala	Asp	Ile	Val	
			260					265					270			
Met	Tyr	Thr	Glu	Asn	Thr	Tyr	Leu	Glu	Thr	Pro	Asp	Thr	His	Val	Val	
		275					280					285				
Tyr	Lys	Pro	Gly	Lys	Asp	Asp	Ala	Ser	Ser	Glu	Ile	Asn	Leu	Val	Gln	
	290					295					300					
Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	
305					310					315					320	
Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	
				325					330					335		
Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	
			340					345					350			
Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	
		355					360					365				
Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	
	370					375					380					
Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	
385					390					395					400	
Cys	Phe	Pro	Leu	Asp	Gly	Ser	Gly	Thr	Asn	Ala	Ala	Tyr	Gln	Gly	Val	
				405					410					415		
Lys	Val	Lys	Asp	Gly	Gln	Asp	Gly	Asp	Val	Glu	Ser	Glu	Trp	Glu	Asn	
			420					425					430			
Asp	Asp	Thr	Val	Ala	Ala	Arg	Asn	Gln	Leu	Cys	Lys	Gly	Asn	Ile	Phe	
		435					440					445				
Ala	Met	Glu	Ile	Asn	Leu	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	
	450					455					460					
Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Thr	
465					470					475					480	
Asn	Val	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	
				485					490					495		

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Arg Val Thr Pro Pro Ser Leu Val Asp Ala Tyr Leu Asn Ile Gly Ala
      500      505      510
Arg Trp Ser Leu Asp Pro Met Asp Asn Val Asn Pro Phe Asn His His
      515      520      525
Arg Asn Ala Gly Leu Arg Tyr Arg Ser Met Leu Leu Gly Asn Gly Arg
      530      535      540
Tyr Val Pro Phe His Ile Gln Val Pro Gln Lys Phe Phe Ala Ile Lys
545      550      555      560
Ser Leu Leu Leu Leu Pro Gly Ser Tyr Thr Tyr Glu Trp Asn Phe Arg
      565      570      575
Lys Asp Val Asn Met Ile Leu Gln Ser Ser Leu Gly Asn Asp Leu Arg
      580      585      590
Thr Asp Gly Ala Ser Ile Ala Phe Thr Ser Ile Asn Leu Tyr Ala Thr
      595      600      605
Phe Phe Pro Met Ala His Asn Thr Ala Ser Thr Leu Glu Ala Met Leu
      610      615      620
Arg Asn Asp Thr Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser Ala Ala
625      630      635      640
Asn Met Leu Tyr Pro Ile Pro Ala Asn Ala Thr Asn Val Pro Ile Ser
      645      650      655
Ile Pro Ser Arg Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg
      660      665      670
Leu Lys Thr Arg Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr
      675      680      685
Phe Val Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu
      690      695      700
Asn His Thr Phe Lys Lys Val Ser Ile Thr Phe Asp Ser Ser Val Ser
705      710      715      720
Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu Ile Lys
      725      730      735
Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn Met Thr
      740      745      750
Lys Asp Trp Phe Leu Val Gln Met Leu Ala His Tyr Asn Ile Gly Tyr
      755      760      765
Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe
      770      775      780
Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Glu Val Asn
785      790      795      800
Tyr Lys Asp Tyr Gln Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser
      805      810      815
Gly Phe Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr
      820      825      830
Pro Ala Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val Ala Ser
      835      840      845
Val Thr Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro
      850      855      860
Phe Ser Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln
865      870      875      880
Asn Met Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu
      885      890      895
Val Asp Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val
      900      905      910
Phe Asp Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala
      915      920      925
Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
      930      935      940

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<210> 121

<211> 932

<212> PRT

<213> Chimpanzee Adenovirus- CV33 Pan7 Hexon

<400> 121

Met	Ala	Thr	Pro	Ser	Met	Leu	Pro	Gln	Trp	Ala	Tyr	Met	His	Ile	Ala
1				5					10					15	
Gly	Gln	Asp	Ala	Ser	Glu	Tyr	Leu	Ser	Pro	Gly	Leu	Val	Gln	Phe	Ala
			20					25					30		
Arg	Ala	Thr	Asp	Thr	Tyr	Phe	Ser	Leu	Gly	Asn	Lys	Phe	Arg	Asn	Pro
			35				40					45			
Thr	Val	Ala	Pro	Thr	His	Asp	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu
	50				55						60				
Thr	Leu	Arg	Phe	Val	Pro	Val	Asp	Arg	Glu	Asp	Asn	Thr	Tyr	Ser	Tyr
65				70						75					80
Lys	Val	Arg	Tyr	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
				85					90					95	
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Ser
			100					105					110		
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
	115					120						125			
Ala	Pro	Asn	Thr	Cys	Gln	Trp	Thr	Tyr	Lys	Ala	Gly	Asp	Thr	Asp	Thr
	130				135						140				
Glu	Lys	Thr	Tyr	Thr	Tyr	Gly	Asn	Ala	Pro	Val	Gln	Gly	Ile	Ser	Ile
145				150						155					160
Thr	Lys	Asp	Gly	Ile	Gln	Leu	Gly	Thr	Asp	Ser	Asp	Gly	Gln	Ala	Ile
				165					170					175	
Tyr	Ala	Asp	Glu	Thr	Tyr	Gln	Pro	Glu	Pro	Gln	Val	Gly	Asp	Ala	Glu
			180					185					190		
Trp	His	Asp	Ile	Thr	Gly	Thr	Asp	Glu	Lys	Tyr	Gly	Gly	Arg	Ala	Leu
	195					200						205			
Lys	Pro	Asp	Thr	Lys	Met	Lys	Pro	Cys	Tyr	Gly	Ser	Phe	Ala	Lys	Pro
	210				215						220				
Thr	Asn	Lys	Glu	Gly	Gly	Gln	Ala	Asn	Val	Lys	Thr	Glu	Thr	Gly	Gly
225				230						235					240
Thr	Lys	Glu	Tyr	Asp	Ile	Asp	Met	Ala	Phe	Phe	Asp	Asn	Arg	Ser	Ala
				245					250					255	
Ala	Ala	Ala	Gly	Leu	Ala	Pro	Glu	Ile	Val	Leu	Tyr	Thr	Glu	Asn	Val
			260					265					270		
Asp	Leu	Glu	Thr	Pro	Asp	Thr	His	Ile	Val	Tyr	Lys	Ala	Gly	Thr	Asp
	275					280						285			
Asp	Ser	Ser	Ser	Ser	Ile	Asn	Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn	Arg
	290				295						300				
Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr
305				310						315					320
Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu
				325					330					335	
Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln
			340					345					350		
Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp
	355					360						365			
Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn
	370				375						380				
His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asp	Ala
385				390						395					400
Val	Gly	Arg	Thr	Asp	Thr	Tyr	Gln	Gly	Ile	Lys	Ala	Asn	Gly	Asp	Asn
				405					410					415	
Gln	Thr	Thr	Trp	Thr	Lys	Asp	Asp	Thr	Val	Asn	Asp	Ala	Asn	Glu	Leu
			420					425					430		
Gly	Lys	Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu
	435					440						445			
Trp	Arg	Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser
450						455					460				

Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro	Thr	Asn	Thr	Asn	Thr	465	470	475	480
Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro	Ser	Leu	Val	Asp	Ala		485	490	495
Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	Val	500	505	510	
Asn	Pro	Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	515	520	525	
Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	530	535	540	
Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	545	550	555	560
Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp	Val	Asn	Met	Ile	Leu	Gln	Ser	Ser	565	570	575	
Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp	Gly	Ala	Ser	Ile	Ala	Phe	Thr	Ser	580	585	590	
Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	595	600	605	
Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	610	615	620	
Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	625	630	635	640
Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	645	650	655	
Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys	Thr	Arg	Glu	Thr	Pro	Ser	Leu	Gly	660	665	670	
Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	675	680	685	
Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	Thr	Phe	Lys	Lys	Val	Ser	Ile	Thr	690	695	700	
Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	705	710	715	720
Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	725	730	735	
Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	740	745	750	
His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly	Phe	Tyr	Val	Pro	Glu	Gly	Tyr	Lys	755	760	765	
Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg	Asn	Phe	Gln	Pro	Met	Ser	Arg	Gln	770	775	780	
Val	Val	Asp	Glu	Val	Asn	Tyr	Lys	Asp	Tyr	Gln	Ala	Val	Thr	Leu	Ala	785	790	795	800
Tyr	Gln	His	Asn	Asn	Ser	Gly	Phe	Val	Gly	Tyr	Leu	Ala	Pro	Thr	Met	805	810	815	
Arg	Gln	Gly	Gln	Pro	Tyr	Pro	Ala	Asn	Tyr	Pro	Tyr	Pro	Leu	Ile	Gly	820	825	830	
Lys	Ser	Ala	Val	Ala	Ser	Val	Thr	Gln	Lys	Lys	Phe	Leu	Cys	Asp	Arg	835	840	845	
Val	Met	Trp	Arg	Ile	Pro	Phe	Ser	Ser	Asn	Phe	Met	Ser	Met	Gly	Ala	850	855	860	
Leu	Thr	Asp	Leu	Gly	Gln	Asn	Met	Leu	Tyr	Ala	Asn	Ser	Ala	His	Ala	865	870	875	880
Leu	Asp	Met	Asn	Phe	Glu	Val	Asp	Pro	Met	Asp	Glu	Ser	Thr	Leu	Leu	885	890	895	
Tyr	Val	Val	Phe	Glu	Val	Phe	Asp	Val	Val	Arg	Val	His	Gln	Pro	His	900	905	910	
Arg	Gly	Val	Ile	Glu	Ala	Val	Tyr	Leu	Arg	Thr	Pro	Phe	Ser	Ala	Gly	915	920	925	
Asn	Ala	Thr	Thr													930			

<210> 122
 <211> 960
 <212> PRT
 <213> Chimpanzee Adenovirus- ChAd 3 Hexon

<400> 122

Met	Ala	Thr	Pro	Ser	Met	Met	Pro	Gln	Trp	Ser	Tyr	Met	His	Ile	Ser
1				5					10					15	
Gly	Gln	Asp	Ala	Ser	Glu	Tyr	Leu	Ser	Pro	Gly	Leu	Val	Gln	Phe	Ala
		20						25					30		
Arg	Ala	Thr	Glu	Ser	Tyr	Phe	Ser	Leu	Ser	Asn	Lys	Phe	Arg	Asn	Pro
		35					40					45			
Thr	Val	Ala	Pro	Thr	His	Asp	Val	Thr	Thr	Asp	Arg	Ser	Gln	Arg	Leu
	50				55					60					
Thr	Leu	Arg	Phe	Ile	Pro	Val	Asp	Arg	Glu	Asp	Thr	Ala	Tyr	Ser	Tyr
65				70					75					80	
Lys	Ala	Arg	Phe	Thr	Leu	Ala	Val	Gly	Asp	Asn	Arg	Val	Leu	Asp	Met
			85					90					95		
Ala	Ser	Thr	Tyr	Phe	Asp	Ile	Arg	Gly	Val	Leu	Asp	Arg	Gly	Pro	Thr
		100					105					110			
Phe	Lys	Pro	Tyr	Ser	Gly	Thr	Ala	Tyr	Asn	Ser	Leu	Ala	Pro	Lys	Gly
	115					120					125				
Ala	Pro	Asn	Ser	Cys	Glu	Trp	Glu	Gln	Glu	Glu	Thr	Gln	Ala	Val	Glu
	130				135						140				
Glu	Ala	Ala	Glu	Glu	Glu	Glu	Glu	Asp	Ala	Asp	Gly	Gln	Ala	Glu	Glu
145				150					155					160	
Glu	Gln	Ala	Ala	Thr	Lys	Lys	Thr	His	Val	Tyr	Ala	Gln	Ala	Pro	Leu
			165					170						175	
Ser	Gly	Glu	Lys	Ile	Ser	Lys	Asp	Gly	Leu	Gln	Ile	Gly	Thr	Asp	Ala
		180					185					190			
Thr	Ala	Thr	Glu	Gln	Lys	Pro	Ile	Tyr	Ala	Asp	Pro	Thr	Phe	Gln	Pro
	195					200						205			
Glu	Pro	Gln	Ile	Gly	Glu	Ser	Gln	Trp	Asn	Glu	Ala	Asp	Ala	Thr	Val
	210				215						220				
Ala	Gly	Gly	Arg	Val	Leu	Lys	Lys	Ser	Thr	Pro	Met	Lys	Pro	Cys	Tyr
225				230					235					240	
Gly	Ser	Tyr	Ala	Arg	Pro	Thr	Asn	Ala	Asn	Gly	Gly	Gln	Gly	Val	Leu
			245					250						255	
Thr	Ala	Asn	Ala	Gln	Gly	Gln	Leu	Glu	Ser	Gln	Val	Glu	Met	Gln	Phe
		260					265					270			
Phe	Ser	Thr	Ser	Glu	Asn	Ala	Arg	Asn	Glu	Ala	Asn	Asn	Ile	Gln	Pro
	275					280						285			
Lys	Leu	Val	Leu	Tyr	Ser	Glu	Asp	Val	His	Met	Glu	Thr	Pro	Asp	Thr
	290				295					300					
His	Leu	Ser	Tyr	Lys	Pro	Ala	Lys	Ser	Asp	Asp	Asn	Ser	Lys	Ile	Met
305				310					315					320	
Leu	Gly	Gln	Gln	Ser	Met	Pro	Asn	Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg
			325					330						335	
Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly
		340					345					350			
Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln
	355					360						365			
Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Met	Gly
	370				375						380				
Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr
385				390					395					400	
Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	Asn	His	Gly	Thr	Glu	Asp	Glu	Leu
			405					410						415	
Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Gly	Gly	Ile	Gly	Val	Thr	Asp	Thr	Tyr
		420					425						430		

Gln	Ala	Val	Lys	Thr	Asn	Asn	Gly	Asn	Asn	Gly	Gly	Gln	Val	Thr	Trp
		435					440					445			
Thr	Lys	Asp	Glu	Thr	Phe	Ala	Asp	Arg	Asn	Glu	Ile	Gly	Val	Gly	Asn
	450					455					460				
Asn	Phe	Ala	Met	Glu	Ile	Asn	Leu	Ser	Ala	Asn	Leu	Trp	Arg	Asn	Phe
465					470					475					480
Leu	Tyr	Ser	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	Lys	Leu	Lys	Tyr	Asn
				485					490						
Pro	Ser	Asn	Val	Asp	Ile	Ser	Asp	Asn	Pro	Asn	Thr	Tyr	Asp	Tyr	Met
			500				505						510		
Asn	Lys	Arg	Val	Val	Ala	Pro	Gly	Leu	Val	Asp	Cys	Tyr	Ile	Asn	Leu
		515					520					525			
Gly	Ala	Arg	Trp	Ser	Leu	Asp	Tyr	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn
	530					535					540				
His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn
545					550					555					560
Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala
				565					570					575	
Ile	Lys	Asn	Leu	Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn
			580					585					590		
Phe	Arg	Lys	Asp	Val	Asn	Met	Val	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp
		595					600					605			
Leu	Arg	Val	Asp	Gly	Ala	Ser	Ile	Lys	Phe	Glu	Ser	Ile	Cys	Leu	Tyr
	610					615					620				
Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala
625					630					635					640
Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser
			645					650						655	
Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro
			660					665					670		
Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ala	Phe
		675					680					685			
Thr	Arg	Leu	Lys	Thr	Lys	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp
	690					695					700				
Pro	Tyr	Tyr	Thr	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe
705					710					715					720
Tyr	Leu	Asn	His	Thr	Phe	Lys	Lys	Val	Ser	Val	Thr	Phe	Asp	Ser	Ser
			725					730						735	
Val	Ser	Trp	Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu
			740					745					750		
Ile	Lys	Arg	Ser	Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn
		755					760					765			
Met	Thr	Lys	Asp	Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	Asn	Tyr	Asn	Ile
	770					775					780				

Phe Glu Val Asp Pro Met Asp Glu Pro Thr Leu Leu Tyr Val Leu Phe
 915 920 925
 Glu Val Phe Asp Val Val Arg Val His Gln Pro His Arg Gly Val Ile
 930 935 940
 Glu Thr Val Tyr Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
 945 950 955 960

<210> 123

<211> 937

<212> PRT

<213> Chimpanzee Adenovirus- ChAd 6 Hexon

<400> 123

Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
 1 5 10 15
 Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
 20 25 30
 Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
 35 40 45
 Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
 50 55 60
 Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
 65 70 75 80
 Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
 85 90 95
 Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
 100 105 110
 Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
 115 120 125
 Ala Pro Asn Thr Ser Gln Trp Ile Thr Lys Asp Asn Gly Thr Asp Lys
 130 135 140
 Thr Tyr Ser Phe Gly Asn Ala Pro Val Arg Gly Leu Asp Ile Thr Glu
 145 150 155 160
 Glu Gly Leu Gln Ile Gly Pro Asp Glu Ser Gly Gly Glu Ser Lys Lys
 165 170 175
 Ile Phe Ala Asp Lys Thr Tyr Gln Pro Glu Pro Gln Leu Gly Asp Glu
 180 185 190
 Glu Trp His Asp Thr Ile Gly Ala Glu Asp Lys Tyr Gly Gly Arg Ala
 195 200 205
 Leu Lys Pro Ala Thr Asn Met Lys Pro Cys Tyr Gly Ser Phe Ala Lys
 210 215 220
 Pro Thr Asn Ala Lys Gly Gly Gln Ala Lys Ser Arg Thr Lys Asp Asp
 225 230 235 240
 Gly Thr Thr Glu Pro Asp Ile Asp Met Ala Phe Phe Asp Asp Arg Ser
 245 250 255
 Gln Gln Ala Ser Phe Ser Pro Glu Leu Val Leu Tyr Thr Glu Asn Val
 260 265 270
 Asp Leu Asp Thr Pro Asp Thr His Ile Ile Tyr Lys Pro Gly Thr Asp
 275 280 285
 Glu Thr Ser Ser Ser Phe Asn Leu Gly Gln Gln Ser Met Pro Asn Arg
 290 295 300
 Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe Ile Gly Leu Met Tyr Tyr
 305 310 315 320
 Asn Ser Thr Gly Asn Met Gly Val Leu Ala Gly Gln Ala Ser Gln Leu
 325 330 335
 Asn Ala Val Val Asp Leu Gln Asp Arg Asn Thr Glu Leu Ser Tyr Gln
 340 345 350
 Leu Leu Leu Asp Ser Leu Gly Asp Arg Thr Arg Tyr Phe Ser Met Trp
 355 360 365
 Asn Gln Ala Val Asp Ser Tyr Asp Pro Asp Val Arg Ile Ile Glu Asn
 370 375 380

His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asn	Gly	385	390	395	400
Val	Gly	Phe	Thr	Asp	Thr	Phe	Gln	Gly	Ile	Lys	Val	Lys	Thr	Thr	Asn		405	410	415
Asn	Gly	Thr	Ala	Asn	Ala	Thr	Glu	Trp	Glu	Ser	Asp	Thr	Ser	Val	Asn		420	425	430
Asn	Ala	Asn	Glu	Ile	Ala	Lys	Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn		435	440	445
Ile	Gln	Ala	Asn	Leu	Trp	Arg	Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu		450	455	460
Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Ile	Thr	Leu	Pro		465	470	475
Ala	Asn	Thr	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro		485	490	495
Ser	Leu	Val	Asp	Ala	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp		500	505	510
Pro	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu		515	520	525
Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His		530	535	540
Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Leu		545	550	555
Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp	Val	Asn	Met		565	570	575
Ile	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp	Gly	Ala	Ser		580	585	590
Ile	Ala	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe	Pro	Met	Ala		595	600	605
His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn	Asp	Thr	Asn		610	615	620
Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met	Leu	Tyr	Pro		625	630	635
Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro	Ser	Arg	Asn		645	650	655
Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys	Thr	Arg	Glu		660	665	670
Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	Tyr	Ser	Gly		675	680	685
Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	Thr	Phe	Lys		690	695	700
Lys	Val	Ser	Ile	Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	Gly	Asn	Asp		705	710	715
Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	Val	Asp	Gly		725	730	735
Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	Trp	Phe	Leu		740	745	750
Val	Gln	Met	Leu	Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly	Phe	Tyr	Val		755	760	765
Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg	Asn	Phe	Gln		770	775	780
Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Glu	Val	Asn	Tyr	Lys	Asp	Tyr	Gln		785	790	795
Ala	Val	Thr	Leu	Ala	Tyr	Gln	His	Asn	Asn	Ser	Gly	Phe	Val	Gly	Tyr		805	810	815
Leu	Ala	Pro	Thr	Met	Arg	Gln	Gly	Gln	Pro	Tyr	Pro	Ala	Asn	Tyr	Pro		820	825	830
Tyr	Pro	Leu	Ile	Gly	Lys	Ser	Ala	Val	Ala	Ser	Val	Thr	Gln	Lys	Lys		835	840	845
Phe	Leu	Cys	Asp	Arg	Val	Met	Trp	Arg	Ile	Pro	Phe	Ser	Ser	Asn	Phe		850	855	860


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Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala
865                               870                               875                               880
Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp Pro Met Asp
                               885                               890                               895
Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp Val Val Arg
                               900                               905                               910
Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg Thr
                               915                               920                               925
Pro Phe Ser Ala Gly Asn Ala Thr Thr
                               930                               935

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<210> 124

<211> 956

<212> PRT

<213> Chimpanzee Adenovirus- C1 Hexon

<400> 124

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
1                               5                               10                               15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
                               20                               25                               30
Arg Ala Thr Asp Thr Tyr Phe Asn Leu Gly Asn Lys Phe Arg Asn Pro
                               35                               40                               45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
                               50                               55                               60
Met Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65                               70                               75                               80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
                               85                               90                               95
Ala Ser Thr Phe Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
                               100                              105                              110
Phe Lys Pro Tyr Ser Gly Ser Ala Tyr Asn Ser Leu Ala Pro Lys Gly
                               115                              120                              125
Ala Pro Asn Thr Ser Gln Trp Leu Asp Lys Gly Val Thr Thr Thr Asp
                               130                              135                              140
Asn Asn Thr Glu Asn Gly Asp Glu Glu Asp Glu Val Ala Glu Glu Gly
145                              150                              155                              160
Glu Glu Glu Lys Gln Ala Thr Tyr Thr Phe Gly Asn Ala Pro Val Lys
                               165                              170                              175
Ala Glu Ala Glu Ile Thr Lys Glu Gly Leu Pro Ile Gly Leu Glu Val
                               180                              185                              190
Pro Ser Glu Gly Asp Pro Lys Pro Ile Tyr Ala Asp Lys Leu Tyr Gln
                               195                              200                              205
Pro Glu Pro Gln Val Gly Glu Glu Ser Trp Thr Asp Thr Asp Gly Thr
                               210                              215                              220
Asp Glu Lys Tyr Gly Gly Arg Ala Leu Lys Pro Glu Thr Lys Met Lys
225                              230                              235                              240
Pro Cys Tyr Gly Ser Phe Ala Lys Pro Thr Asn Val Lys Gly Gly Gln
                               245                              250                              255
Ala Lys Val Lys Lys Val Glu Glu Gly Lys Val Glu Tyr Asp Ile Asp
                               260                              265                              270
Met Asn Phe Phe Asp Leu Arg Ser Gln Lys Thr Gly Leu Lys Pro Lys
                               275                              280                              285
Ile Val Met Tyr Ala Glu Asn Val Asp Leu Glu Thr Pro Asp Thr His
                               290                              295                              300
Val Val Tyr Lys Pro Gly Ala Ser Asp Ala Ser Ser His Ala Asn Leu
305                              310                              315                              320
Gly Gln Gln Ser Met Pro Asn Arg Pro Asn Tyr Ile Gly Phe Arg Asp
                               325                              330                              335
Asn Phe Ile Gly Leu Met Tyr Tyr Asn Ser Thr Gly Asn Met Gly Val
                               340                              345                              350

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Leu	Ala	Gly	Gln	Ala	Ser	Gln	Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	355	360	365
Arg	Asn	Thr	Glu	Leu	Ser	Tyr	Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	370	375	380
Arg	Thr	Arg	Tyr	Phe	Ser	Met	Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	385	390	395
Pro	Asp	Val	Arg	Val	Ile	Glu	Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	405	410	415
Asn	Tyr	Cys	Phe	Pro	Leu	Asp	Gly	Val	Gly	Pro	Arg	Thr	Asp	Ser	Tyr	420	425	430
Lys	Gly	Ile	Glu	Thr	Asn	Gly	Asp	Glu	Asn	Thr	Thr	Trp	Lys	Asp	Leu	435	440	445
Asp	Pro	Asn	Gly	Ile	Ser	Glu	Leu	Ala	Lys	Gly	Asn	Pro	Phe	Ala	Met	450	455	460
Glu	Ile	Asn	Ile	Gln	Ala	Asn	Leu	Trp	Arg	Ser	Phe	Leu	Tyr	Ser	Asn	465	470	475
Val	Ala	Leu	Tyr	Leu	Pro	Asp	Ser	Tyr	Lys	Tyr	Thr	Pro	Thr	Asn	Val	485	490	495
Thr	Leu	Pro	Glu	Asn	Lys	Asn	Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	500	505	510
Val	Pro	Pro	Ser	Leu	Val	Asp	Thr	Tyr	Val	Asn	Ile	Gly	Ala	Arg	Trp	515	520	525
Ser	Leu	Asp	Ala	Met	Asp	Asn	Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	530	535	540
Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	545	550	555
Pro	Phe	His	Ile	Gln	Val	Pro	Gln	Lys	Phe	Phe	Ala	Val	Lys	Asn	Leu	565	570	575
Leu	Leu	Leu	Pro	Gly	Ser	Tyr	Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp	580	585	590
Val	Asn	Met	Val	Leu	Gln	Ser	Ser	Leu	Gly	Asn	Asp	Leu	Arg	Val	Asp	595	600	605
Gly	Ala	Ser	Ile	Ser	Phe	Thr	Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe	610	615	620
Pro	Met	Ala	His	Asn	Thr	Ala	Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn	625	630	635
Asp	Thr	Asn	Asp	Gln	Ser	Phe	Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met	645	650	655
Leu	Tyr	Pro	Ile	Pro	Ala	Asn	Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro	660	665	670
Ser	Arg	Asn	Trp	Ala	Ala	Phe	Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys	675	680	685
Thr	Lys	Glu	Thr	Pro	Ser	Leu	Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	690	695	700
Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	705	710	715
Thr	Phe	Lys	Lys	Val	Ser	Ile	Met	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	725	730	735
Gly	Asn	Asp	Arg	Leu	Leu	Thr	Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	740	745	750
Val	Asp	Gly	Glu	Gly	Tyr	Asn	Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	755	760	765
Trp	Phe	Leu	Val	Gln	Met	Leu	Ala	Asn	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly	770	775	780
Phe	Tyr	Val	Pro	Glu	Gly	Tyr	Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg	785	790	795
Asn	Phe	Gln	Pro	Met	Ser	Arg	Gln	Val	Val	Asp	Glu	Ile	Asn	Tyr	Lys	805	810	815
Asp	Tyr	Lys	Ala	Val	Ala	Val	Pro	Tyr	Gln	His	Asn	Asn	Ser	Gly	Phe	820	825	830

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Val Gly Tyr Met Ala Pro Thr Met Arg Gln Gly Gln Ala Tyr Pro Ala
      835      840      845
Asn Tyr Pro Tyr Pro Leu Ile Gly Thr Thr Ala Val Thr Ser Val Thr
      850      855      860
Gln Lys Lys Phe Leu Cys Asp Arg Thr Met Trp Arg Ile Pro Phe Ser
865      870      875      880
Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Leu
      885      890      895
Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Thr Phe Glu Val Asp
      900      905      910
Pro Met Asp Glu Pro Thr Leu Leu Tyr Leu Leu Phe Glu Val Phe Asp
      915      920      925
Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr
      930      935      940
Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
945      950      955

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<210> 125

<211> 933

<212> PRT

<213> Chimpanzee Adenovirus- CV68 Hexon

<400> 125

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Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
 1      5      10      15
Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
      20      25      30
Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
      35      40      45
Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
      50      55      60
Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65      70      75      80
Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
      85      90      95
Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
      100      105      110
Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
      115      120      125
Ala Pro Asn Thr Cys Gln Trp Thr Tyr Lys Ala Asp Gly Glu Thr Ala
      130      135      140
Thr Glu Lys Thr Tyr Thr Tyr Gly Asn Ala Pro Val Gln Gly Ile Asn
145      150      155      160
Ile Thr Lys Asp Gly Ile Gln Leu Gly Thr Asp Thr Asp Asp Gln Pro
      165      170      175
Ile Tyr Ala Asp Lys Thr Tyr Gln Pro Glu Pro Gln Val Gly Asp Ala
      180      185      190
Glu Trp His Asp Ile Thr Gly Thr Asp Glu Lys Tyr Gly Gly Arg Ala
      195      200      205
Leu Lys Pro Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe Ala Lys
      210      215      220
Pro Thr Asn Lys Glu Gly Gly Gln Ala Asn Val Lys Thr Gly Thr Gly
225      230      235      240
Thr Thr Lys Glu Tyr Asp Ile Asp Met Ala Phe Phe Asp Asn Arg Ser
      245      250      255
Ala Ala Ala Ala Gly Leu Ala Pro Glu Ile Val Leu Tyr Thr Glu Asn
      260      265      270
Val Asp Leu Glu Thr Pro Asp Thr His Ile Val Tyr Lys Ala Gly Thr
      275      280      285
Asp Asp Ser Ser Ser Ser Ile Asn Leu Gly Gln Gln Ala Met Pro Asn
290      295      300

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Arg	Pro	Asn	Tyr	Ile	Gly	Phe	Arg	Asp	Asn	Phe	Ile	Gly	Leu	Met	Tyr	305	310	315	320
Tyr	Asn	Ser	Thr	Gly	Asn	Met	Gly	Val	Leu	Ala	Gly	Gln	Ala	Ser	Gln	325	330	335	
Leu	Asn	Ala	Val	Val	Asp	Leu	Gln	Asp	Arg	Asn	Thr	Glu	Leu	Ser	Tyr	340	345	350	
Gln	Leu	Leu	Leu	Asp	Ser	Leu	Gly	Asp	Arg	Thr	Arg	Tyr	Phe	Ser	Met	355	360	365	
Trp	Asn	Gln	Ala	Val	Asp	Ser	Tyr	Asp	Pro	Asp	Val	Arg	Ile	Ile	Glu	370	375	380	
Asn	His	Gly	Val	Glu	Asp	Glu	Leu	Pro	Asn	Tyr	Cys	Phe	Pro	Leu	Asp	385	390	395	400
Ala	Val	Gly	Arg	Thr	Asp	Thr	Tyr	Gln	Gly	Ile	Lys	Ala	Asn	Gly	Thr	405	410	415	
Asp	Gln	Thr	Thr	Trp	Thr	Lys	Asp	Asp	Ser	Val	Asn	Asp	Ala	Asn	Glu	420	425	430	
Ile	Gly	Lys	Gly	Asn	Pro	Phe	Ala	Met	Glu	Ile	Asn	Ile	Gln	Ala	Asn	435	440	445	
Leu	Trp	Arg	Asn	Phe	Leu	Tyr	Ala	Asn	Val	Ala	Leu	Tyr	Leu	Pro	Asp	450	455	460	
Ser	Tyr	Lys	Tyr	Thr	Pro	Ala	Asn	Val	Thr	Leu	Pro	Thr	Asn	Thr	Asn	465	470	475	480
Thr	Tyr	Asp	Tyr	Met	Asn	Gly	Arg	Val	Val	Ala	Pro	Ser	Leu	Val	Asp	485	490	495	
Ser	Tyr	Ile	Asn	Ile	Gly	Ala	Arg	Trp	Ser	Leu	Asp	Pro	Met	Asp	Asn	500	505	510	
Val	Asn	Pro	Phe	Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	515	520	525	
Met	Leu	Leu	Gly	Asn	Gly	Arg	Tyr	Val	Pro	Phe	His	Ile	Gln	Val	Pro	530	535	540	
Gln	Lys	Phe	Phe	Ala	Ile	Lys	Ser	Leu	Leu	Leu	Pro	Gly	Ser	Tyr		545	550	555	560
Thr	Tyr	Glu	Trp	Asn	Phe	Arg	Lys	Asp	Val	Asn	Met	Ile	Leu	Gln	Ser	565	570	575	
Ser	Leu	Gly	Asn	Asp	Leu	Arg	Thr	Asp	Gly	Ala	Ser	Ile	Ser	Phe	Thr	580	585	590	
Ser	Ile	Asn	Leu	Tyr	Ala	Thr	Phe	Phe	Pro	Met	Ala	His	Asn	Thr	Ala	595	600	605	
Ser	Thr	Leu	Glu	Ala	Met	Leu	Arg	Asn	Asp	Thr	Asn	Asp	Gln	Ser	Phe	610	615	620	
Asn	Asp	Tyr	Leu	Ser	Ala	Ala	Asn	Met	Leu	Tyr	Pro	Ile	Pro	Ala	Asn	625	630	635	640
Ala	Thr	Asn	Val	Pro	Ile	Ser	Ile	Pro	Ser	Arg	Asn	Trp	Ala	Ala	Phe	645	650	655	
Arg	Gly	Trp	Ser	Phe	Thr	Arg	Leu	Lys	Thr	Lys	Glu	Thr	Pro	Ser	Leu	660	665	670	
Gly	Ser	Gly	Phe	Asp	Pro	Tyr	Phe	Val	Tyr	Ser	Gly	Ser	Ile	Pro	Tyr	675	680	685	
Leu	Asp	Gly	Thr	Phe	Tyr	Leu	Asn	His	Thr	Phe	Lys	Lys	Val	Ser	Ile	690	695	700	
Thr	Phe	Asp	Ser	Ser	Val	Ser	Trp	Pro	Gly	Asn	Asp	Arg	Leu	Leu	Thr	705	710	715	720
Pro	Asn	Glu	Phe	Glu	Ile	Lys	Arg	Thr	Val	Asp	Gly	Glu	Gly	Tyr	Asn	725	730	735	
Val	Ala	Gln	Cys	Asn	Met	Thr	Lys	Asp	Trp	Phe	Leu	Val	Gln	Met	Leu	740	745	750	
Ala	His	Tyr	Asn	Ile	Gly	Tyr	Gln	Gly	Phe	Tyr	Val	Pro	Glu	Gly	Tyr	755	760	765	
Lys	Asp	Arg	Met	Tyr	Ser	Phe	Phe	Arg	Asn	Phe	Gln	Pro	Met	Ser	Arg	770	775	780	

[illegible]